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ORIGINAL ARTICLES.

THE RADICAL CURE OF VARICOCELE, ATTENDED WITH REDUNDANCY OF SCROTUM, DEMONSTRATED BY TIME.

Announced—but not read—before the Section on Surgery, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY MORRIS H. HENRY, M.A., M.D., LL.D.,

OFFICER OF THE ROYAL ORDER OF THE SAVIOR, OF GREECE; COMMANDER OF THE IMPERIAL ORDERS OF THE MEDJIDIE AND OF L'OSMANIE, OF TURKEY; FORMERLY SURGEON-IN-CHIEF OF THE STATE EMIGRANT HOSPITALS OF NEW YORK, ETC.

The surgical treatment of varicocele has attracted the attention of many distinguished surgeons of the day—mainly, however, among those who devote more or less especial attention to diseases of the genito-urinary organs. All surgical operations are performed for the relief or cure of disease, whether it be of an acute or chronic nature, and time alone can demonstrate the true value of any special surgical procedure.

The impression still prevails, among many of what might be termed the older surgeons, that varicocele is a disease that does not often call for surgical interference, because it can be borne by many suffering from the disease—to a limited extent—with the aid of a suspensory bandage or a flexible metal ring. In conversations with a number of those entertaining or expressing these views I am led to believe that the fear of bad results, or failure in the ligation of the veins, is the source of their impressions and their aversion to any surgical interference. I believe that non-interference may, in many instances, be of greater benefit to the patient than ligation of the veins. Every surgeon knows of the uncertainty of this operation—not only of its failure to cure, but the risk of inducing atrophy of the testes, and the excitation of inflammation to the extent of danger to life. The only argument, deserving consideration, offered by those who advocate non-interference is, that in a large number of cases the disease is not a real source of physical disability, and can be borne without much discomfort with the aid of a bandage, just as a hernia can be endured with the assistance of a truss. Sir James Paget, one of the oldest and most distinguished of living surgeons, expressed these views to me in a conversation I had with him about three years ago. He remarked, however, that he had retired from the field of operative surgery and had become very conservative in his views; and that, except in cases of those who desired to enter or remain in the public service, army and navy, or in positions requiring physical endurance, he was averse to any surgical interference. When I suggested that surgical aid was justified to relieve the annoyances, distress, pain and mental anxieties, the only answer that he made was: "Well, only an absolute physical disability would induce me to sanction an operation looking to the obliteration of the spermatic veins. I have never performed excision of the redundant scrotum; while it is less dangerous, I shall not have an opportunity of testing its merits. As I have already said, I have retired from operative surgery."

My purpose is not to call especial attention to the physical and other disabilities induced by the presence of even slight cases of varicocele; but to advocate, to the fullest extent of my ability, the advantages of excision of the redundant scrotum over all other methods hitherto pursued for its relief and cure.

My convictions and conclusions are based on the results of a large experience, and of extraordinary opportunities of physical examinations, covering a period of more than twenty-five years. While pursuing my own clinical observations I have not been unmindful of the labors of my colleagues, nor less watchful of the result of their cases than of my own—that is, as far as opportunities have been afforded.

The honor of the first suggestion of the operation is due to Sir Astley Cooper. He published, in his classic volume on the structure and diseases of the testis, 1841, a report of five cases in which he operated, and an additional case, with some extraordinary features, submitted by his colleague, Mr. Key; who was also in favor of the operation and with a strong preference over that of ligation of the veins. There can be no doubt that the distrust of the value of ligations of the veins, amongst British surgeons, was due to the influence and teachings of the surgeons I have just mentioned. But the new operation did not meet with any great amount of favor, owing to the fear of severe hæmorrhage in its performance, and the permanency of benefit as a final result.

The German surgeons paid little or no heed to it, and the French surgeons became absorbed in the gradual constriction of the veins, leading to their obliteration, suggested by the brilliant Ricord. Curling, who has been for many years, and is still to a great extent, the British Mentor in this department of surgery, has ignored the operation, but with no additional reason to sustain his objections.

My own first practical knowledge of the operation—over thirty years ago, and while yet an undergraduate—was in being accidentally asked to assist the late distinguished and erratic Edward H. Dixon, an alumnus of the College of Physicians and Surgeons, of New York, who performed the operation on a young lawyer. That operation was not a success. The failure was due to the method of operation, and the method was faulty owing to the want of proper instruments for the performance. But to Dixon must be accorded the credit of first calling attention to the operation in this country. I am fully sustained in this view by the testimony of the oldest member of the firm of Tiemann & Co., the celebrated instrument-makers; the origin of the firm antedating the period of Sir Astley Cooper's first publication on this subject. I have examined patterns of all the instruments they have made, and heard of the many embryonic efforts of others that never fulfilled a period of gestation. Dixon's instrument consisted of two curved steel bars about 4 inches in length and ¼ inch in thickness, perforated at each end for the introduction of screws to hold the bars together when embracing the tissues to be removed. It was a failure. Many attempts have been made by others, within the past few years, to revive this same instrument on account of its cheapness, and the ulterior purpose of associating their names with the operation. Their efforts and so-called "modifications"—a term of license to take unpardonable liberties with other men's inventions—have attracted little or no attention.

My first studies of the nature and best means for the relief of varicocele commenced in 1857. I first published the results of my experience and observations in 1871. I gave a detailed account of my method of operating; illustrations of my instruments; the *rationale* of the operation and the results. They are too well known to need any further recital before this Association. While my report met with unusual and not unfavorable attention, it was still urged that obliteration of the veins alone afforded a radical cure. The phantasm of dangerous hæmorrhage attending the operation was dispelled on examination of my instruments and method of operating, but the cloud of "fear of lasting benefit" still remained. Gross, Agnew, Ashurst, Barton, Levis, Hammond, Hutchinson, Van Buren, Keyes, Bumstead, Taylor, Otis, Bangs, Weir, Bull, Abbe and McBurney have publicly attested their appreciation of my instruments and method. Still, further time was asked ere a verdict should be rendered in accordance with my appeal. I waited eleven years, until 1881. I then told, before the New York Academy of Medicine and the Academy of Surgery, of Philadelphia, of my experiences. In my account of fifteen cases recorded up to that time I had met with uniform success. The cases ranged between the ages of 19 and 45, and the operations aged between one and thirteen years. Is any further evidence essential to demonstrate that there is a limit to the elasticity of the scrotum; or the resiliency of the coats of the veins under favoring circumstances; or a lessening of the enlargement under a decrease of force and shortening of the column of blood of the spermatic vessels?

I have performed the operation fifty-nine times. In four instances hydrocele existed as a complication. They have all made radical cures as far as I can learn. I have made more than ordinary efforts to obtain information of the results up to this period. The time allotted to me will not permit of details of cases; I can only give general results. Surely cases operated upon ten or more years ago; showing now no more existence of former varicoceles, are a refutation of the objection to complete excision of the redundant scrotum for the permanent relief and cure of varicocele.

It is now generally performed, either with or without ligation of the veins, in most of the hospitals in this country. In most of the advanced works on surgery it has received recognition. Bumstead and Taylor not only admitted the value of my instruments but described my operation and advocated its adoption. Van Buren admitted to me the possibility of its becoming "the operation." Keyes, in the recent revised edition of their joint work, admits it, and speaks of my "clamp" as an "admirable one." Otis is decidedly in favor of it. Mr. H. Royes Bell, who contributed to the "International Encyclopædia of Surgery," describes the operation but, from want of knowledge of what has been done, is still fearful of the permanency of good results. In France, Edward Wickham has published an admirable brochure: "De la cure radicale du Varicocele par la résection du scrotum," dedicated to Guyon and Horteloup, in which he describes the results of the operation, and belief in the permanency of the results. He has changed somewhat the curve of my clamp, but accords me credit for my observations and operations, and the part I have taken in bringing the subject before the profession.

It is now before you, gentlemen of the Section of Surgery. I have endeavored, in the short time allotted to me, to give you the salient points of my impressions and knowledge obtained from clinical experience. I know that, should you adopt my suggestions, no lesser benefits will result from your operations than from mine.

581 Fifth Ave., New York.

MALARIA; AND THE CAUSATION OF PERIODIC FEVER.

Read in the Section on State Medicine, at the Thirty-ninth Annual Meeting of the American Medical Association, Cincinnati, May, 1888.

BY HENRY B. BAKER, M.D.,
OF LANSING, MICH.

Periodicity characterizes most and perhaps all physiological changes: The normal contraction and relaxation of muscles, and of protoplasm, the pulsation of the heart, the rhythmic respiratory movements, the periodical sleep during the night, action and repose are the rule, and this applies to thought and other nervous energy. Strongly-marked liberations of vital force occur only after a period of non-action has permitted the storing up of energy, which energy when once strongly and thoroughly discharged cannot immediately be followed by another similar discharge, for which time and opportunity for the accumulation of energy in dischargeable form is requisite.

A periodic fever has, in the fact of its periodicity, a very strong indication that it is necessarily related to periodic changes in the patient, or in those environments of the patient which influence physiological periodicity. Periodic fever is most frequently associated with those diurnal changes in the environment which are known to be associated with diurnal changes in human beings; rest and sleep during the night, and action during the day, are the rule; and periodic fevers usually recur daily or in multiples of days.

The tension of the blood-vessels is in great part controlled by nerves which have been called vaso-motor nerves; and although these may not be controlled by the will, impressions on sensory nerves, and movements started by volition are capable of influencing the vaso-motor nerves, and the calibre and tonicity of blood-vessels. In my opinion these facts have important relation to periodic fever, and especially to chills and fever; because, it is well known that chill and subsequent fever not infrequently follow impressions which are purely mental. A "nervous chill" thus caused has probably come under the notice of most observant medical practitioners. The chill which not infrequently follows childbirth is also well-known, but has other factors than mental or volitional impressions, because involuntary muscular contractions also have occurred.

The common phenomena of reaction from chill, if the chill is of considerable severity, include fever. In periodic fever—"fever and ague" (which term should be transposed, because the chill uniformly precedes the fever which is apparent) if the chill is accounted for, the fever seems to be explicable as the reaction from the chill, especially as the fever is comparatively ephemeral, it soon disappears, as it should do if reactionary only, and it only reappears after another chill; that is to say each recurring fever has the same cause, that cause being the chill. If this view of the case is correct, what has to be accounted for, then, is the chill, and its periodical recurrence.

The time of day when the ague chill most frequently occurs, and the circumstances under which "nervous chills" occur, are facts which should aid our search for the essential conditions. I believe the ague chill is most frequent about noon, or not far from the warmest part of the day. My tables and diagrams show that there is also most intermittent fever in the warmest months of the year. It is generally conceded that there is most intermittent fever in the hot climates. High temperature of the atmosphere then, is the most important element in the causation of ague—intermittent fever. Whether the causation is direct or indirect is an interesting question. There are facts to be presented, further on in this paper, going to show that the influence of high temperature is, to some extent, indirect—through difference in the day and night temperatures. One alleged fact of this kind is that, in very malarious localities, exposure to the very high temperature on the low lands during the hottest part of the day does not cause the ague; but if one, thus exposed, remains on the low lands during the night, ague results, although the chill may not occur until the warmest part of the day. The great difference between the low lands and the high lands at night consists in the much lower temperature on the low lands.[1] The cold experienced at night is much the greatest on the lowlands. If the night exposure to cold has causative relation to ague, how is it to be explained? Why is it that the ague chill is not coincident with the chilling influence of the cool atmosphere?

Let us examine into the phenomena:

The ague chill comes at a time later than the experience of cold. The "nervous" chill comes after the experience of the mental or other constitutional disturbance. The chill after childbirth follows the strong muscular contractions. The chill following surgical operations is after the cessation of the extreme muscular and nervous tension. The general fact seems to be that so long as the stimulus continues unabated and the organism unexhausted the nervous chill does not occur; but it occurs after the unusual tension has ceased, or after the nervous system is exhausted. The disturbed and irregular nervous control of the body in ague chill would seem analagous to the twanging of a violin string, the tension of which has been lowered below its normal pitch. The vibrations are then irregular.

I submit tables and diagrams showing the rela-

[1] Experiments in Michigan, with registering thermometers, have proved that the difference is, frequently, great.

tions of intermittent fever to atmospheric temperature.

It being apparent that whether or not there is a specific cause of ague, intermittent fever is a disturbance of the nervous system, and is, directly or indirectly, controlled by atmospheric temperature, is there ready explanation of how atmospheric temperature can control intermittent fever, irrespective of a specific cause?

But first those who think that a specific microorganism is capable of causing periodic chill and fever may be allowed to show how it is possible for such specific cause to act periodically, or to induce periodic effects, or to cause fever or chills. It is alleged to be proved by Dr. Bernardo Schiavuzzi, in Istria, Austria, that the *bacillus malariæ*, described by Drs. Klebs and Tommassi Crudeli, "is found in the atmosphere of malarial places, and more abundant the higher the temperature of the atmosphere and of the ground, and that corresponding to this the intensity of the malaria rose, meanwhile in the atmosphere of places free from fever this bacillus is not found."[2] It is conceivable that this bacillus or some other may be inhaled, and that its products in the body may cause such an irritation or disturbance of the nervous system as we find in ague chill, and the periodical recurrence of the chill may be nearest the time of highest atmospheric temperature, because at that time the bacillus is alleged to be most abundant in the atmosphere inhaled. But this is not in accordance with the alleged fact which seems to be well attested by numerous observers, that exposure in malarious localities in the daytime is not so frequently followed by ague as exposure during the night. And, again, no one supposes that there is any bacillus or other microörganism concerned in the causation of nervous chill from mental or emotional disturbance, or of surgical chill, or of the chill following childbirth. These last-mentioned chills do not recur, but alternations of heat and cold day and night do recur, and tables of statistics which I have examined seem to prove that they are greatest in "malarious" regions, and slight in non-malarious regions, they are great in months preceding or when intermittent fever most occurs, and they are slight in months preceding or when that disease least occurs; and it would seem that in such periodical alternations of atmospheric temperature we must find sufficient cause for the production and for the periodic recurrence of ague.

HOW ATMOSPHERIC TEMPERATURE CHANGE MAY CAUSE "CHILL."

When a person is long exposed to cool night air, the abstraction of heat from the body is great, the demand for the production of heat is great. The impress on the nervous system is strong. If one thus exposed is awake and observant, the sensations will be remembered as peculiar as well as unpleasant. If the air is not cold enough to induce immediate reaction, there is a gradually increasing nervous tension until, if the exposure is long enough, shivering occurs, that is, the normally equable nervous control of the muscular system is disturbed. If the nervous system is well-nourished, and the exposure is not extreme, the reactionary relaxation of the superficial blood-vessels, which generally occurs on the subsequent exposure to warmth, is not great, especially if the warmth is applied to the extremities of the body.

Under some circumstances, the nervous tension, due to an exposure to an atmosphere cold compared with what has recently been experienced, does not soon reach that stage where shivering occurs. Perhaps the shivering occurs soonest when the sensation of the chill is more local than general, and the most intense nervous tension without shivering is caused in those cases where the attention has been least called to the nervous disturbance, because the impress of the cold has been most gradual as well as general.[3]

Given, a case of intense nervous tonicity (due to impress of a cool atmosphere during the night) and consequent clonic contraction of the involuntary muscular tissue of the integument, what may occur on the experience of the day atmosphere, in warm weather? If the strong contractions on the surfaces of the body continue, and the production of heat goes on at the same rate, the heat-loss will be greatly lessened, and this will be beneficial so long as the temperature of the body remains not above the normal; but if after a time the temperature of the air inhaled becomes much warmer, the heat-loss through respiration is, consequently, much less, the internal body temperature may then become abnormally high, as is the case, I believe, in the cold stage of ague. The abnormally high internal temperature and the disturbed nervous control cause irregular muscular contractions, and the other subjective and objective phenomena of the chill; and, as is well known, these disturbances may be intensified on exposing the back of a person in this condition to the sun. The high temperature is caused (as I believe) by the continued tonicity of the muscular system of the integument, which does so much to regulate the heat-loss of the body, and which, under the circumstances I have described, has been greatly stimulated in such a *gradual* manner that immediate reaction did not occur; but when the reaction does finally occur, it is excessive and exhibits that heat of the surface which is recognized, by even non-professional persons, as "fever." The relaxation of the surfaces, brought

[2] "Concerning Malaria in general, and particularly in Istria." Wiener Medizinische Presse, 1887, No. 52, page 1779-80.
Also letter, to the author of this paper, from Prof. Conrad Tommassi Crudeli, submitted to this meeting herewith.

[3] See diagram and text relative to conditions in India.

about by this reaction, then proceeds until its maximum is reached in the sweating stage.

Thus we have, according to my view, a clear grasp of the manner in which a first paroxysm of ague is caused by exposure to changes in atmospheric temperature. Given such alternations in atmospheric temperature as will cause a first paroxysm of ague, the chances are greatly in favor of there being similar alternations on the day succeeding, or, if not on that day, in a day or two afterwards, especially if it chances to be at that season of the year when the difference between the day and night temperature tends to continue uniform; and the repetition of those conditions which caused the first paroxysm should cause a second, and a third, and so on continually so long as the cause is repeated until death, or until the nervous system, which controls the surfaces, gains such sensitiveness to those insidious changes in the atmospheric temperature that normal or appropriate reaction promptly occurs on the experience of exposure to such insidious changes.

This view explains why it is that quinine, strychnine, and those agents which have such influence on the tonicity of the muscles, voluntary and involuntary, especially those which like quinine, have strong influence on the involuntary muscular system, have such influence over ague. Strychnine, as is well-known, renders the nervous system particularly sensitive to external impressions; but its effects, in medicinal doses, are perhaps not so lasting as are those of quinine.

It is a common observation that persons who travel northward, or to a colder climate, where ague is comparatively rare, not infrequently have one or more paroxysms of chills and fever soon after the change.[4] The common explanation is that they brought the disease with them in their systems. But this is not philosophic, because so long as they were at the South, to the temperature changes of which locality they were acclimated, they had no ague. The true explanation is that they were not acclimated to the temperature changes in the cooler region; the contractions of the surfaces, due to the tonic effects of the cooler climate, did not readily permit of the loss of any unusual body heat, such as would result from muscular exertions; the nervous centres suffered, and chill and fever resulted.

That persons not acclimated to a warm climate suffer from ague, is a still more well-known fact. It seems difficult to account for this by any other theory than the one which I am advocating; and by this theory it seems perfectly plain, because, in warm climates the daily fluctuations of temperature are so much greater than they are in temperate or cool climates, the demands upon the heat-regulating nervous system are therefore correspondingly greater.

[4] During the late war, I noticed this on a large scale after movements of troops from the South.

BLOOD CHANGES IN AGUE.

The evidence relative to the excessive formation of pigment by disintegration of the red blood-corpuscles, through internal congestions and the greatly varying constitution of the blood serum as regards water and salts, because of the excessive thirst and perspiration in ague, seems to have been omitted from this paper; but this reference to it may serve to suggest that, in the opinion of the writer, the evidence is in harmony with the other portions of this paper.

DAILY RANGE OF ATMOSPHERIC TEMPERATURE DETERMINES INTERMITTENT FEVER.

From time to time I have published[5] evidence tending to prove that the prevalence of intermittent fever throughout the world is in proportion to the difference between the day and night temperature—the average daily range of temperature to which people are exposed.[6]

With this paper I submit tables and diagrams proving, as I think, that so far as relates to certain parts of the world, this general law is correct. It is true in Michigan. It is true of that part of this country occupied by the U. S. Armies during the late war of 1861–5. The tables and diagrams sustaining this last statement include a study of the months of occurrence of over half a million cases (542,009) of intermittent fever, a number so vast that even though only three years' time is covered there is extremely great probability that true averages have been reached. If you will study the diagram (No. 1.) you will see that the curve representing the cases of intermittent fever follows with great uniformity the curve for average daily range of atmospheric temperature. It follows it in such a manner as to demonstrate, I think, that there is a necessary relation; and taken in connection with what we know of the regulation of body temperature by nerves which are in necessary relation to, and which normally respond to changes in the atmospheric temperature, the diagram seems to demonstrate a relation of cause and effect between daily range of temperature and intermittent fever.

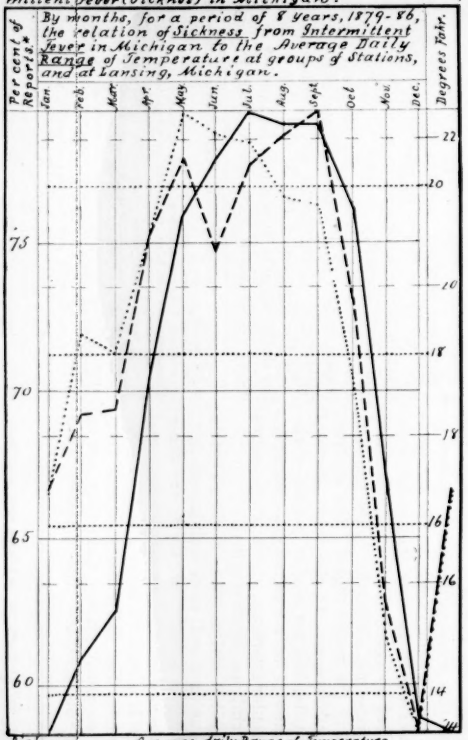
By the diagram it will be seen that so long as the daily range is increasing the number of cases under observation accumulate, perhaps because

[5] Reports of Michigan State Board of Health, especially for that of 1880, p. 318.

[6] "It may be well to bear in mind in relation to this subject that intermittent fever is a disease of the warm season in this State, that it becomes more and more prevalent as we go south until in the extreme Southern States it is extremely common and severe, that the daily range of temperature is greatest in the warm months in this State, that it is greater in the warmer climates of the Southern States, that this is especially true on the lowlands, and that it is exposure during the day and during the night on the lowlands in the South which is believed to be so uniformly productive of chills and fever.

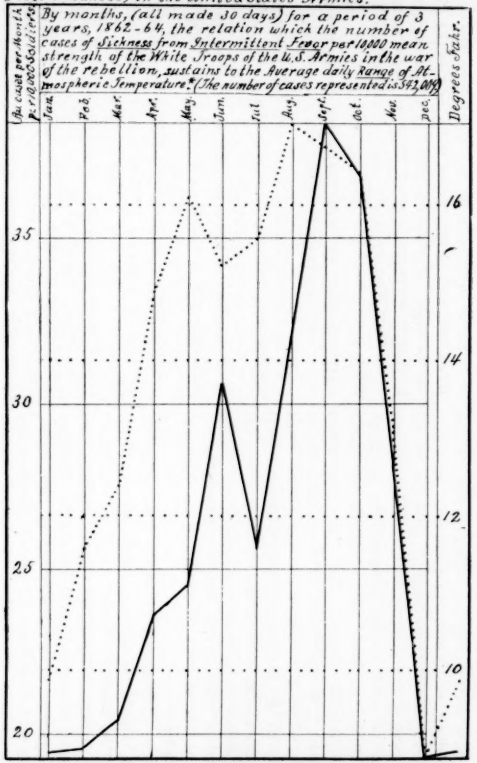
"If periodic chills and fever is produced or greatly favored by excessive periodic changes in the temperature of the atmosphere, then the reason is supplied why exposure on the hot lowlands during the day and return to the warm highlands at night is not so productive of ague as is exposure to the cold night-air of the lowlands." Page 318, Rep. Mich State Board of Health, 1880.

No. 2.— Range of Atmospheric Temperature, and Intermittent Fever (Sickness) in Michigan.


By months, for a period of 8 years, 1879-86, the relation of Sickness from Intermittent Fever in Michigan to the Average Daily Range of Temperature at groups of Stations, and at Lansing, Michigan.
Per cent of Reports*
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
75
70
65
60
22
20
18
16
14
12
10

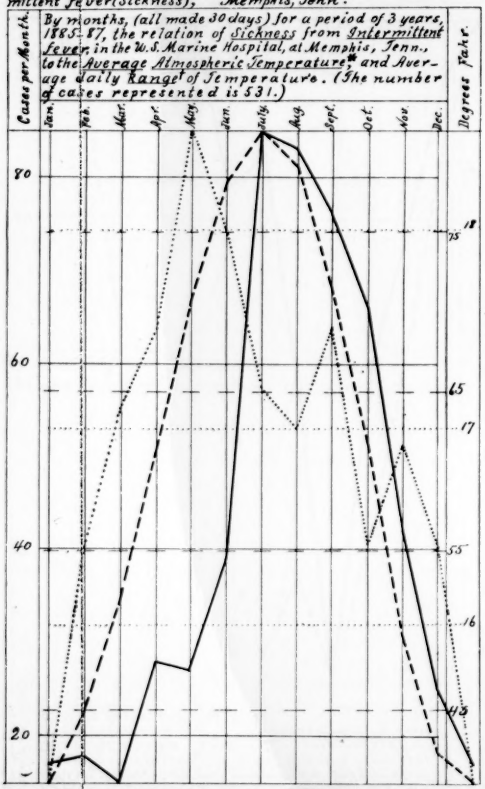
Sickness ——— Average daily Range of Temperature .....
Average daily Range of Temperature at Lansing — — —
*Indicating what per cent of all reports received stated the presence of Intermittent fever then under the observation of the physicians reporting.
Over 35000 weekly reports of Sickness are represented in this diagram.

No. 1.— Range of Atmospheric Temperature, and Intermittent Fever (Sickness) in the United States Armies.


By months, (all made 30 days) for a period of 3 years, 1862-64, the relation which the number of cases of Sickness from Intermittent Fever per 1000 mean strength of the White Troops of the U.S. Armies in the war of the rebellion, sustains to the Average daily Range of Atmospheric Temperature.* (The number of cases represented is 567,000)
No. cases per Month per 1000 Soldiers
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
35
30
25
20
16
14
12
10

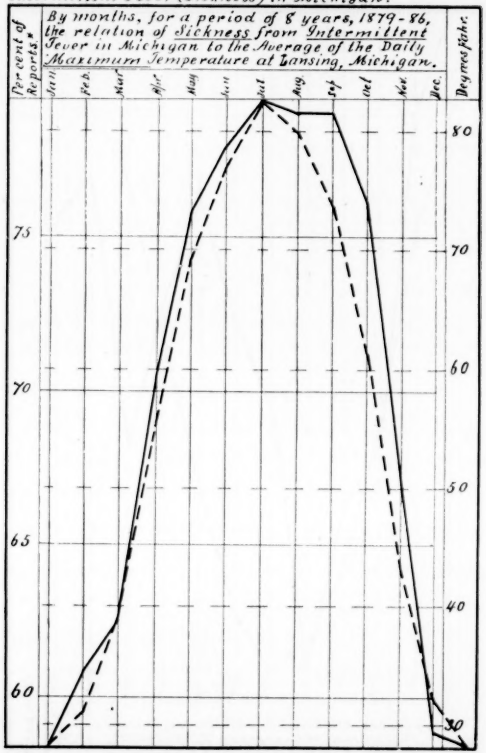
Sickness ——— . Average daily Range of Temperature .....
*The sickness is compiled from the Medical and Surgical History of the War of the Rebellion. The range of Temperature is compiled from a table on page 134 of the Smithsonian Tables "Distribution and Variation of the Atmospheric Temp. in the U.S." It is for a period of 8 years, 1862-69, at Naval Observatory, Washington, D.C.

No. 4.— Atmospheric Temperature, and Range of Temp., and Intermittent Fever (Sickness), Memphis, Tenn.


Cases per Month.
By months, (all made 30 days) for a period of 3 years, 1885-87, the relation of Sickness from Intermittent Fever in the U.S. Marine Hospital, at Memphis, Tenn., to the Average Atmospheric Temperature* and Average daily Range* of Temperature. (The number of cases represented is 531.)
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. July Aug. Sept. Oct. Nov. Dec.
80
60
40
20
75
65
55
45
18
17
16

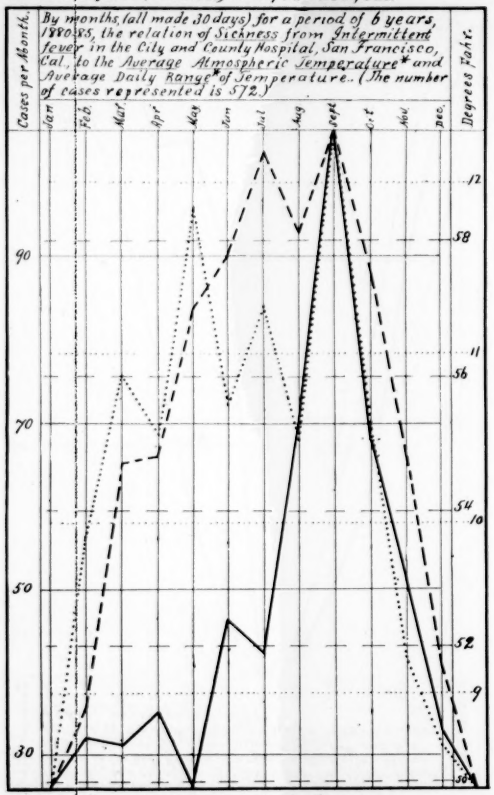
Sickness ——. Average Atmospheric Temperature — — —.
Average daily Range of Temperature .....
*Normal for 13 years, 1871-85. †Normal for 5 years, 1881-85.

No. 3.— Maximum Atmospheric Temperature and Intermittent Fever (Sickness) in Michigan.


Per cent of Reports*
By months, for a period of 8 years, 1879-86, the relation of Sickness from Intermittent Fever in Michigan to the Average of the Daily Maximum Temperature at Lansing, Michigan.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.
75
70
65
60
80
70
60
50
40
30

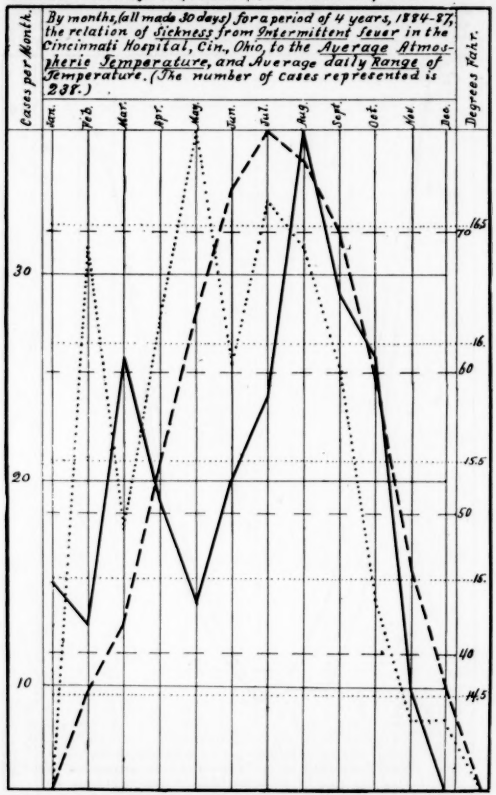
Sickness ——. Average maximum Temperature — —.
*Indicating what per cent of all reports received, stated the presence of Intermittent Fever then under the observation of the physicians reporting.
Over 36000 weekly reports of sickness are represented in this diagram.

No. 6.—Atmospheric Temperature and Range of Temp. and Intermittent fever (Sickness) San Francisco, Cal.


By months, (all made 30 days) for a period of 6 years, 1880-85, the relation of Sickness from Intermittent fever in the City and County Hospital, San Francisco, Cal., to the Average Atmospheric Temperature* and Average Daily Range* of Temperature. (The number of cases represented is 572.)
Cases per Month.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
90
70
50
30
12
11
10
9
58
56
54
52
50
48

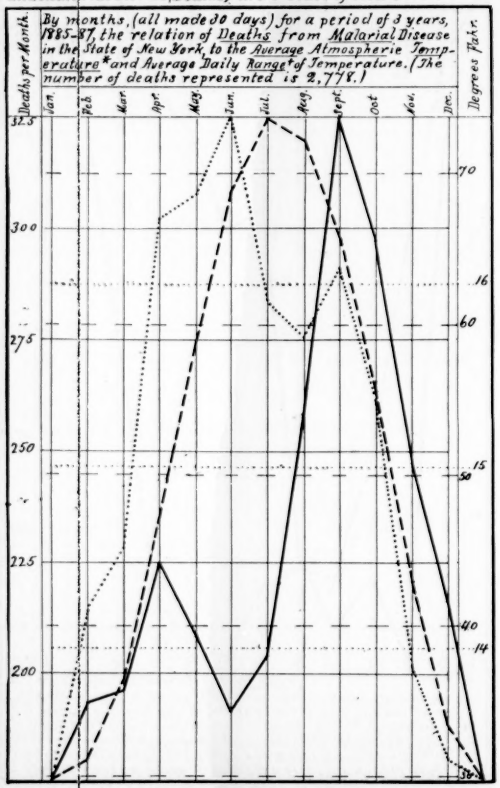
Sickness ——. Average Atmospheric Temperature — — —.
Average daily Range of Temperature .....
*Normal for 5 years 1881-85.

No. 5.—Atmospheric Temperature, and Range of Temp., and Intermittent fever (Sickness) Cincinnati, Ohio.

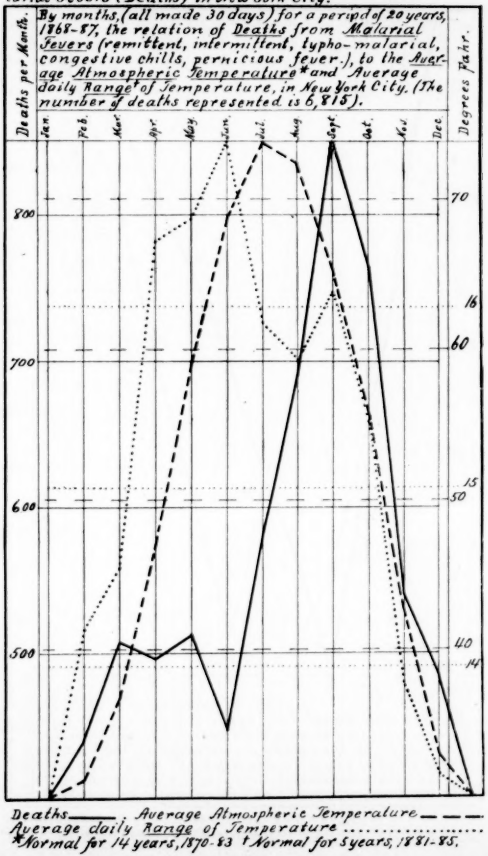

By months, (all made 30 days) for a period of 4 years, 1884-87, the relation of Sickness from Intermittent fever in the Cincinnati Hospital, Cin., Ohio, to the Average Atmospheric Temperature, and Average daily Range of Temperature. (The number of cases represented is 238.)
Cases per Month.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
30
20
10
70
60
50
40
16.
15.5
15.
14.5

Sickness ——. Average Atmospheric Temperature — — —.
Average daily Range of Temperature .....

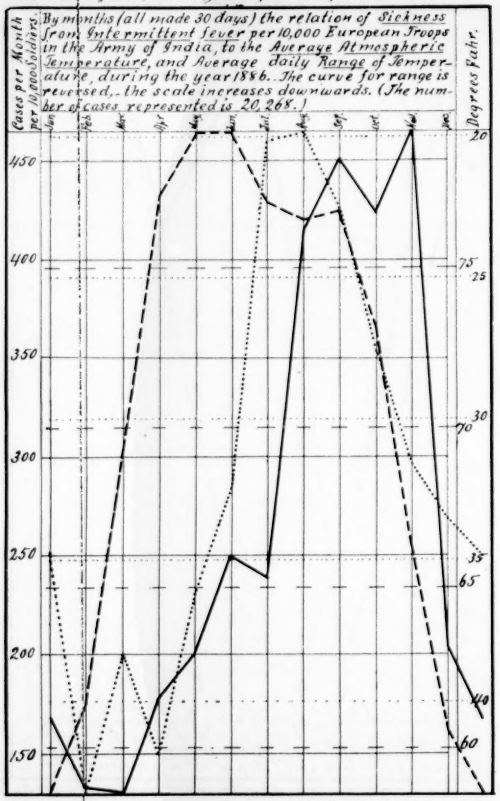
No. 8.—Atmospheric Temperature and Range of Temperature and Malarial Disease (Deaths) in the State of New York.


By months, (all made 30 days) for a period of 3 years, 1885-87, the relation of Deaths from Malarial Disease in the State of New York, to the Average Atmospheric Temperature* and Average Daily Range† of Temperature. (The number of deaths represented is 2,778.)
Deaths per Month.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
325
300
275
250
225
200
70
16
60
15
50
40
14
Deaths ——— . Average Atmospheric Temperature — — —
Average daily Range of Temperature .....
*Normal for 15 years, 1871-85. †Normal for 5 years, 1881-85.

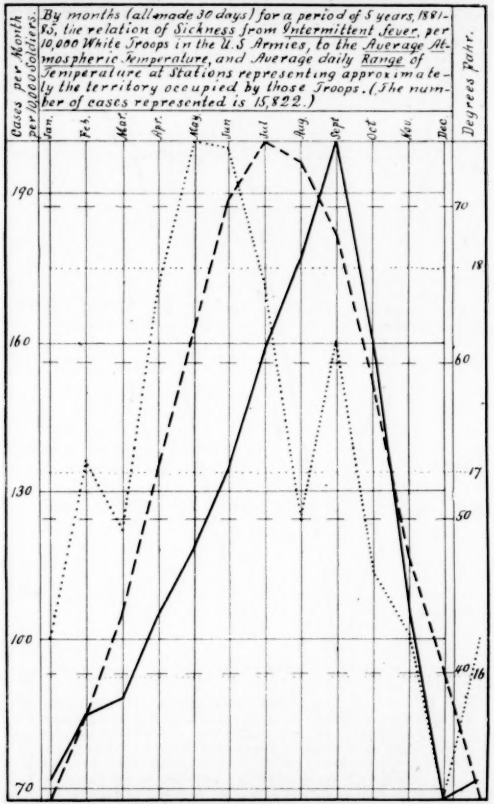
No. 7.—Atmospheric Temperature and Range of Temp., and Malarial Fevers (Deaths) in New York City.

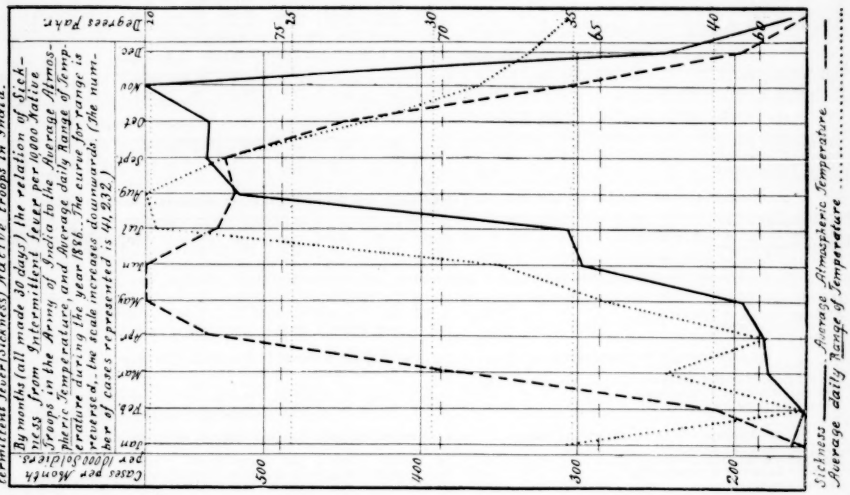

By months, (all made 30 days) for a period of 20 years, 1868-87, the relation of Deaths from Malarial Fevers (remittent, intermittent, typho-malarial, congestive chills, pernicious fever), to the Average Atmospheric Temperature* and Average daily Range† of Temperature, in New York City. (The number of deaths represented is 6,815).
Deaths per Month.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
800
700
600
500
70
16
60
15
50
40
14
Deaths ——— . Average Atmospheric Temperature — — —
Average daily Range of Temperature .....
*Normal for 14 years, 1870-83 †Normal for 5 years, 1881-85.

No. 10.—Atmospheric Temperature and Range of Temp., and Intermittent fever (Sickness). European troops in India.

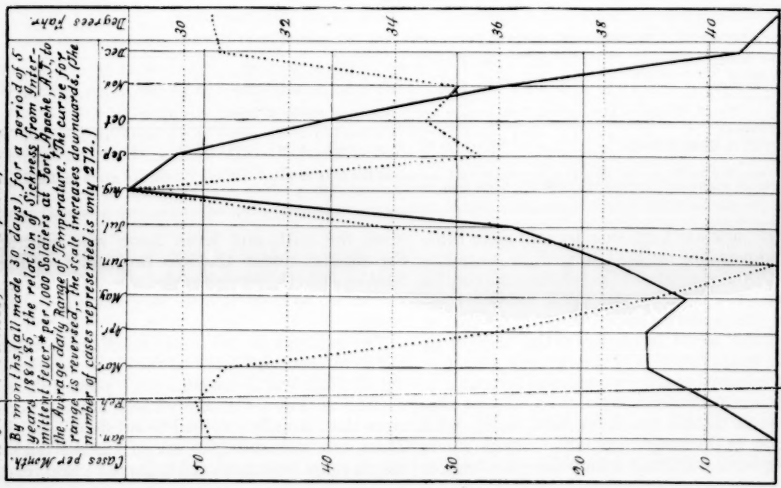

By months (all made 30 days) the relation of Sickness from Intermittent fever per 10,000 European Troops in the Army of India, to the Average Atmospheric Temperature, and Average daily Range of Temperature, during the year 1886. The curve for range is reversed,—the scale increases downwards. (The number of cases represented is 20,268.)
Cases per Month per 10,000 Soldiers.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
450 400 350 300 250 200 150
20 75 25 30 70 35 65 40 60
Sickness ——— Average Atmospheric Temperature — — —
Average daily Range of Temperature .....

No. 9.—Atmospheric Temperature and Range of Temp. and Intermittent Fever (Sickness) U.S. Armies, 1881-5.


By months (all made 30 days) for a period of 5 years, 1881-85, the relation of Sickness from Intermittent Fever per 10,000 White Troops in the U.S. Armies, to the Average Atmospheric Temperature, and Average daily Range of Temperature at Stations representing approximately the territory occupied by those Troops. (The number of cases represented is 15,822.)
Cases per Month per 1000 Soldiers.
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
190 160 130 100 70
70 18 60 17 50 40 16
Sickness ——— Average Atmospheric Temperature — — —
Average daily Range of Temperature .....


Cases per Month per 10000 Soldiers
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
500 400 300 200
80 75 70 65 60
Sickness —— Average Atmospheric Temperature — — —
Average daily Range of Temperature .....

No 11.- Atmospheric Temperature and Range of Temp, and Intermittent fever(Sickness) Native troops in India.
By months (all made 30 days.) the relation of Sickness from Intermittent fever per 1000 Native Troops in the Army of India to the Average Atmospheric Temperature and Average daily Range of Temperature during the year 1888. The curve for range is reversed, the scale increases downwards. (The number of cases represented is 41,232.)


Cases per Month
Degrees Fahr.
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.
50 40 30 20 10
30 32 34 36 38 40
Sickness —— Average daily Range of Temperature .....

No 12.- Range of Atmospheric Temperature, and Intermittent fever(Sickness) Fort Apache, A.T.
By months, (all made 30 days), for a period of 5 years 1881-85, the relation of Sickness from Intermittent fever* per 1000 Soldiers at Fort Apache, A.T. to the Average daily Range of Temperature. The curve for range is reversed. The scale increases downwards. (The number of cases represented is only 272.)

*Sickness from Intermittent fever.
Data for Sickness in manuscript obtained from Surgeon-General U.S. Army. Meteorological Reports for 1883-85, of the Chief Signal Officer at Washington, D.C.

TABLES FROM WHICH THE ACCOMPANYING DIAGRAMS WERE DRAWN.[1]

No. 1.—Range of Atmospheric Temperature, and Intermittent Fever (sickness) in the United States Armies.

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Intermittent Fever.	19.4	19.6	20.4	23.6	24.5	30.6	25.6	32.0	38.5	36.8	28.1	19.3
Average Range of Temperature.	9.87	11.55	12.36	14.88	16.10	15.21	15.57	17.01	16.76	16.41	13.12	8.87

No. 2.—Range of Atmospheric Temperature, and Intermittent Fever (Sickness) in Michigan.

Intermittent Fever.	58.4	60.8	62.5	70.4	75.8	77.8	79.5	79.0	79.0	76.1	67.0	58.8
Average Range of Temperature (Mich.).	16.34	18.23	18.02	19.41	20.83	20.62	20.50	19.84	19.74	17.69	14.69	13.56
Average Range of Temperature (Lansing)	17.25	18.29	18.33	20.67	21.72	20.46	21.61	22.05	22.35	19.81	15.73	13.99

No. 3.—Maximum Atmospheric Temperature, and Intermittent Fever (sickness) in Michigan.

Intermittent Fever.	58.4	60.8	62.5	70.4	75.8	77.8	79.5	79.0	79.0	76.1	67.0	58.8
Max. Temperature at Lansing.	28.2	31.1	39.1	55.7	69.2	77.0	82.3	79.9	73.5	61.3	43.3	31.9

No. 4.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), Memphis, Tenn.

Intermittent Fever.	17	18	15	28	27	39	85	83	76	66	42	25
Range of Temperature	15.2	16.4	17.1	17.5	18.5	18.0	17.2	17.0	17.5	16.4	16.9	16.4
Mean Temperature	40.4	44.8	51.8	61.3	70.6	78.2	81.2	79.1	71.5	61.8	49.6	42.4

No. 5.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), Cincinnati, Ohio.

Intermittent Fever.	15	13	26	19	14	20	24	37	29	26	10	5
Average Range of Temperature.	14.10	16.40	15.20	16.10	16.90	15.90	16.60	16.40	15.90	14.90	14.40	14.40
Mean Temperature	30.4	37.1	41.9	53.4	64.2	73.0	77.1	74.9	70.1	59.5	46.0	37.7

No. 6.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), San Francisco, Cal.

Intermittent Fever	26	32	31	35	26	46	42	70	105	68	51	33
Average Range of Temperature.	8.44	9.92	10.86	10.52	11.84	10.68	11.28	10.48	12.30	10.54	9.22	8.70
Mean Temperature	49.9	51.1	54.7	54.8	57.0	57.8	59.3	58.1	59.6	57.5	54.8	51.7

No. 7.—Atmospheric Temperature and Range of Temperature, and Malarial Fevers (deaths), in New York City.

Deaths from Malarial Diseases	402	440	507	496	512	447	582	690	849	764	539	483
Average Range of Temperature.	13.28	14.20	14.54	16.36	16.48	16.92	15.90	15.70	16.08	15.36	13.90	13.40
Mean Temperature	30.2	31.4	36.8	47.0	59.1	68.7	73.7	72.3	65.3	55.6	42.6	33.0

No. 8.—Atmospheric Temperature and Range of Temperature, and Malarial Diseases (deaths), in the State of New York.

Deaths from Malarial Diseases	176	193	196	225	208	191	204	258	325	297	247	216
Average Range of Temperature.	13.28	14.20	14.54	16.36	16.48	16.92	15.90	15.70	16.08	15.36	13.90	13.40
Mean Temperature.	29.8	31.1	36.4	47.1	58.9	68.6	73.5	72.1	65.5	55.5	42.8	33.3

No. 9.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), U. S. Armies, 1881-5.

Intermittent Fever.	71.73	84.69	88.15	104.92	118.49	135.17	158.75	176.94	200.68	161.12	105.20	67.92
Average Range of Temperature.	16.18	17.05	16.72	17.92	18.61	18.59	17.92	16.77	17.64	16.51	16.20	15.40
Mean Temperature	32.0	37.5	43.8	53.4	62.2	70.4	74.2	72.8	68.2	58.7	47.4	39.9

No. 10.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), European troops in India.

Intermittent Fever.	168	132	130	178	200	250	238	414	451	424	468	204
Average Range of Temperature.	34.8	43.2	38.4	41.9	36.2	32.4	20.2	19.8	22.6	27.7	31.6	33.5
Mean Temperature	58.6	61.4	69.3	77.3	79.2	79.2	77.	76.5	76.8	73.1	66.3	60.6

No. 11.—Atmospheric Temperature and Range of Temperature, and Intermittent Fever (sickness), Native troops in India.

Intermittent Fever.	163	156	178	181	195	297	307	517	537	535	573	244
Average Range of Temperature.	34.8	43.2	38.4	41.9	36.2	32.4	20.2	19.8	22.6	27.7	31.6	33.5
Mean Temperature	58.6	61.4	69.3	77.3	79.2	79.2	77.0	76.5	76.8	73.1	66.3	60.6

No. 12.—Range of Atmospheric Temperature, and Intermittent Fever (sickness), Fort Apache, A. T.

Intermittent Fever.	4.62	9.02	14.77	14 89	11.62	17.06	25.59	56.10	52.12	40.73	26.69	7.70
Average Range of Temperature.	30.56	30.30	30.86	35.94	38.94	41.34	33.84	28.96	35.64	34.64	35.22	30.70

[1] More complete headings, and details of the extent and sources of the facts included in these Tables, are given in the diagrams, Nos. 1 to 12, which graphically exhibit the facts which are numerically stated in these Tables.

those made sick are kept sick by still more unfavorable temperature ranges; to such an extent is this true that the greatest effect of the unfavorable range seems to extend to the month following the change in atmospheric temperature range. But, on the other hand, when the change in the range of atmospheric temperature is is the opposite direction —toward lessened range—a condition favorable to freedom from intermittent fever, then, at least after the first such month, the fever falls nearly with the decrease in the range; probably because under the atmospheric condition which does not tend to cause the chills and fever, those who contracted the disease under the less favorable conditions tend rapidly to recover under the more favorable condition, so there is little or no accumulation of cases.

The evidence in the table and diagram relating to the intermittent fever in the U. S. Armies during the late war I consider very powerful, representing as they do so many cases among persons more than usually exposed to out-door conditions. Then, too, the statistics are of cases of sickness which must be considered to have a close relation

to causative conditions, perhaps closer than would be the deaths.

RANGE OF TEMPERATURE SOMETIMES HAS DIRECT, SOMETIMES INDIRECT RELATION TO INTERMITTENT FEVER.

Although there is demonstrated to be a direct close relation between the daily range of atmospheric temperature and intermittent fever in Michigan, and in that part of this country in which the U. S. Armies were during the years 1862, 3 and 4, a study of the subject in other parts of this country and in other countries where the average daily range of atmospheric temperature is either greater or less than it is in Michigan, seems to prove that in such parts of the world the relationship is reversed.

The strongest evidence on this part of the subject that I have found is that shown in the tables and diagrams relating to range of temperature and sickness from intermittent fever in the European and native troops in the armies in India, (Diagrams Nos. 10 and 11) representing, respectively, 20,268 and 41,232 cases of intermittent fever which occurred during a single year, 1886. In the diagram (No. 10) relating to the European troops, the curve representing the range of temperature is drawn as if the relation were direct, but it is evident that it is not direct, yet that it sustained a well-marked relationship, inversely. [The diagram has been re-drawn, reversing the curve for range of temperature.]

That it is not the average *temperature* alone that controls the fever is shown by the fact that in many of the diagrams the curve for the fever has variations for which there are no corresponding variations in the curve for temperature; but there are variations somewhat similar, although sometimes reversed, in the curve representing the *range* of temperature.

In the diagram (No. 11) relating to the native troops, the curve for *range* of temperature is drawn so that the scale increases downwards, and the diagram shows somewhat close inverse relationship between the range of temperature and the intermittent fever. In this diagram, also, there are variations in the curve representing fever which are not accounted for by the curve for *temperature*, and are better accounted for by reference to the curve for *range* of temperature. That in both European and native troops the fever continued to prevail until November, notwithstanding the changes in both temperature and range of temperature had occurred three to five months earlier, may possibly be accounted for by the accumulation of cases, in connection with the fact that the temperature had commenced its downward movement so that there was increasing exposure to temperatures comparatively low.

HOW DO THE EVIDENCES HARMONIZE?

Taking the evidence as it stands it is strong to the effect that in Michigan and the U. S. Armies the intermittent fever is quantitatively related to the daily range of atmospheric temperature, the *greater* the range the more intermittent fever; and that in India the fever is quantitatively related to the daily range of temperature, the *less* the range the more intermittent fever. I believe there is evidence of a similar reversal of relationship in some parts of this country, where the average daily range of temperature is very great or very little; although the statistics for such places do not cover a very great number of cases of sickness.

In another part of this paper there is an attempt to learn the conditions which tend most strongly toward the production of such a clonic spasm of the contractile fibres in the integument that loss of body heat is prevented, and the spasm or contraction does not yield until after a higher than normal internal body temperature has resulted. In that part of this paper, the conclusion is reached that the impress which most certainly tends to produce this condition of the body is the very insidious yet considerable cooling of the surface of the body generally; that sudden great changes in temperature (such as occurs in winter when one goes from a warm room directly into an atmosphere at the temperature of zero), are generally reacted against at once, and are not only recognized by the senses, but are unconsciously guarded against, and especially attract attention if confined to a particular small portion of the body. One method of resuscitating persons lacking in nervous control is to submit them to rapid changes in temperature by the alternate application of hot and cold water, or by other similar means to bring about immediate reaction.[7]

In physics, I believe the law is that "action and reaction are equal and opposite;" but whether or not the motion resulting from an action shall continue in the same direction, or be reversed in direction, depends upon the amount of resistance to its continuance, and upon the suddenness of the impact. An insidious change in atmospheric temperature which cools and constringes the surface of the body does not, so often as does a sudden change, meet with that resistance or proper response by the nervous system which is requisite in order that the normal regulation of the body temperature shall be brought about immediately.

If the proper reaction to cold is immediate it is useful; but when the reaction comes only after the conditions have so far changed that, instead of there being cold to react against, heat is being applied, then the result is a body temperature abnormally high, in which case, so long as the sur-

[7] In the experience of sudden changes, the system has an impress analogous to that given the billiard ball, struck by the cue, when a "draw" ball is played; while in the experience of the insidious change the system has an impress analogous to that given the ball when a "follow" ball is played, in which case the impress continues after the ball has struck another, in spite of the opposing force which, under the condition first named, served to reverse the direction of the motion.

face of the body is cool and purple, we may have those sensations and appearances which are called chill; but as soon as the reaction is established, there is that higher than normal external as well as internal body temperature which has long been known as fever.

If we have reached the correct explanation of the mechanism of intermittent fever, we have explained why it is that in those parts of the world where the daily changes of atmospheric temperature are usually *very great*, the body is acclimated to and is best able to react against those changes which are most pronounced, and least likely to react against those changes which are most insidious. In India, then, and at Fort Apache, Arizona Ter., where the average daily range of atmospheric temperature is excessive, the intermittent fever should be inversely proportional to the average daily range of atmospheric temperature. These statistics seem to prove that this is so.

On the other hand, in those parts of the world where a majority of the daily changes in temperature are comparatively insidious, but where the inhabitants are so "toned up" that intermittent fever is not so often experienced, the greater the extent of the daily change in atmospheric temperature the greater the chance of causing intermittent fever, through unusual demands upon the heat-regulating nerves. In Michigan and those other temperate parts of the United States where those conditions prevail, the intermittent fever should be directly and quantitatively proportional to the average daily range of the atmospheric temperature. These statistics seem to prove that this is so.

In a few of the tables and diagrams which I have studied, there seems to be evidence that where the average daily range of atmospheric temperature is excessively small, the effect on the fever is uncertain.

In a few of the tables and diagrams there seems to be shown a direct relationship of range of atmospheric temperature to intermittent fever in all the months in which the average range is below about 16°, while in months when the range is above that, the relationship seems to be reversed; but even in such cases there is apparently good evidence that range of atmospheric temperature has influence.

In nearly all the instances studied, it is apparent that intermittent fever is more closely related to daily *range* of temperature than to the *average* temperature. It follows, therefore, that if the bacteria in the atmosphere alleged to cause the fever increase, as stated by Dr. B. Schiavuzzi, in proportion to the temperature of the *atmosphere*, then the experience of range of atmospheric temperature is a stronger controlling factor than is the bacillus malariæ in the causation of intermittent fever.

If, however, the bacillus malariæ is capable of causing the fever, and it is in the atmosphere in proportion to the temperature of the *earth* (as also is alleged by Dr. Schiavuzzi), then we must await further evidence, because we have not yet sufficient statistics of the proportional prevalence of the bacillus in each month of the year at a sufficient number of parts of the world, nor sufficient collected and tabulated data of the temperature of the earth in different parts of the world, to answer the question.

SUMMARY.

So far as evidence is yet presented, it seems to be proved, then, that:

1. Intermittent fever is proportional, directly or inversely, to the average daily *range* of atmospheric temperature.

2. The *controlling* cause of intermittent fever is exposure to insidious changes, or changes to which one is unaccustomed, in the atmospheric temperature.

3. In the mechanism of the causation of intermittent fever, the chief factor is the delay in the reaction from exposure to cool air; this delay, extending to a time when greater heat-loss should occur, results in the abnormal accumulation of heat in the interior of the body, and in disturbed nervous action—the chill; and the final reaction is excessive, because of the accumulation of heat and, sometimes, because it occurs at the warmest part of the day.

4. The fever is the excessive reaction from the insidious influence of the exposure to cool air; and it is periodical because of the periodicity of nervous action, and because the *exposure* and the consequent chill are periodical, owing to the nightly absence of the warmth from the sun.

5. Residence in valleys or on low lands through which or upon which cold air flows at night and thus causes insidious changes in the atmospheric temperature, favors intermittent fever.

6. *In our climate*, those measures, such as drainage, which enable the soil to retain warmth during the night, and thus reduce the daily range of temperature immediately over such soil, tend to decrease intermittent fever among residents thereon.

7. In the cure and prophylaxis of intermittent fever, those remedies are useful which lessen torpidity and tend to increase the power of the body to react promptly to insidious changes in atmospheric temperature.

8. The slowness of the pulse, and other indications of torpidity, associated with retention of bile or with certain disturbances of the functions of the liver, are well known; but, so far as known to the writer, these conditions have not heretofore been considered as causative of the fever in the manner herein suggested.

DISCUSSION ON DR. BAKER'S PAPER.

DR. H. A. JOHNSON, of Chicago: While it is true that the existence of parasites in the blood of

malarial patients is demonstrable, is it a justifiable inference that they cause the disease? The existence of cottonwood trees along our prairie streams do not cause the presence of the water. One of the strongest objections to the so-called hematozoon of malaria being the cause of the disease is that they cannot be cultivated. They exist in the blood plasma, principally in the corpuscles. Can it be demonstrated, 1st, that it is a heterologous form; 2d, that it is not found in any other disease than malaria. These organisms are polymorphous, amœboid. Now one of the results of the malarial form of fever is the multiplication of the white blood corpuscles. Are not these hematozoa a genesis of white blood corpuscles?

DR. W. L. SCHENCK, of Kansas: The widespread presence of periodical fevers, and especially of the so-called malarial diseases, makes the study of the various forms a matter of great importance. In old times malaria was supposed to be the potent cause of the disease. What was malaria? It escaped the microscopist and the chemist. But now it is thought we have found the cause in a bacillus. Dr. Baker's paper showed that there are other causes to be considered. I would refer to papers of my own, published by the State Medical Society, which while not elaborated as Dr. Baker's, go to support this atmospheric theory, We do not think that the frogs and mosquitoes which occur in malarial localities cause the fever, therefore why believe bacteria or hematozoa, which alike have their habitat in swampy regions, are the cause of remittent fevers. Where heat and cold cause engorgement of the organs we find the disease occurs. If all exposed wore proper clothing, protecting them against the chill of the night, the disease might be less prevalent. Heat associated with moisture enervates, and alternating cold produces central action and congestion of organs, thus causing malarial fever.

I had an example in my family. My children, during a warm summer, slept in a door-way, a draught blowing over them. In five days they had malarial fever, yet no other member of the family nor no one in the neighborhood was so affected.

I believe the efficacy of quinia in this disease is its influence in producing disgorgement of the central organs, and stimulating their tonicity prevents reëngorgement.

DR. SHARP, of Mo.: I think the physical and chemical forces have been canvassed as far back as the time of Daniel Drake. He considered it was caused by an animalcule, not from microscopical study, but from the study of the disease. Nothing but a living organism will elaborate chemical compounds. Our bodies are only destroyed by living organisms. I am not yet prepared to accept the doctrine of living organisms as the cause of disease. Living in a malarial region, it soon becomes apparent to one that exposure in the early morning or evening causes the fever. From this experience alone strong support may be given to the theory advanced by Dr. Baker.

DR. LEE, of Pa.: I think Dr. Baker's paper the strongest and most ingenious argument in favor of a theory which has always seemed to me weak and inconclusive, that I have ever heard. The whole aspect of a malarial chill is that of an organism striving under a living poison. First, the powerful contraction of the blood-vessels under the influence of the vaso-motor system, causing the chill, indicates the presence of the poison and the impression it is making on the nervous system. Second, the febrile rise indicates the reaction from the poison. Third, there is the elimination from the emunctories of the noxious or effete material. The theory of heat and cold is quite inadequate to account for the periodicity of malarial fever. Cholera is similar in its phenomena, but the system does not always react as quickly from the stage of depression, hence the fatal issue. In our Western States we have a condition analogous to cholera in the congestive chill.

If heat and cold are the causes of ague we should have quotidian chill. Yet we know the latter are not the most frequent form; there is nearly always an interval making the chill tertian or quartan. It does not yet seem clearly proved how heat and cold cause malaria.

If we suppose the presence in the blood of an organism which has a certain life history and arrives at maturity in a certain number of hours we may have a rational explanation of the cause and effect of malaria.

Changes of heat and cold, we know, are as frequent in winter as in summer, therefore—if this theory were true—we ought to have the disease prevalent in winter as well as in summer.

MULLEIN IN THE TREATMENT OF MALARIAL TROUBLES.

Read in the Section on Practical Medicine, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY GEORGE BYRD HARRISON, M.D.,
OF WASHINGTON, D. C.

This brief paper is intended to draw attention to the remarkable results obtained, in certain sections of the South, during the war between the States, in the treatment of malarial fevers, by means of a very common and homely plant, mullein; (verbascum thapsus of Linnaeus). Perhaps it is wrong to speak of it as a "homely" plant, because it seems that all of its family seen in this country, (some three varieties), have been imported from Europe. "Familiar," would give

a better description. Although not an adult, during the earlier years of the revolution, I was old enough to note the signal effects of this herb as used in the treatment of malarial troubles. Quinine amongst us in those days was a luxury which few could command. My temporary home was upon the Upper James River, in Virginia, in a neighborhood in which chill and fever was anything but a rarity. Mullein was the resource under these circumstances, and proved to be by no means "a broken reed." I will try and give evidence of this, by direct testimony other than my own, later in my paper; regretting that, (owing to the state of things, then existing), it is not medical testimony, strictly speaking. I have selected this subject because our dispensatories, while placing verbascum quite conspicuously in their secondary list, and according to it a catalogue of virtues, are singularly silent as to its antimalarial properties. Wood, Bartholow, and Lauder Brunton ignore the vegetable, altogether, in their treatises upon Materia Medica.

Francis Peyre Porcher, in his well-known work, "Resources of the Southern Fields and Forests," says (Edition, 1869), "Of the order scrofulariaceæ (fig-wort-tribe), generally acrid and bitterish, sometimes dangerous in their properties; is mullein, (verbascum thapsus-walt) diffused; grows in pastures upper and lower districts, flowers in July" (a number of references given here); "The leaves of the flowers contain a narcotic principle. A decoction of the flowers and leaves (as tea), is beneficial in dysentery and tenesmus; it calms pain in the fundament, caused by hæmorrhoids; and it is used in the convulsions of infants; in ardor urinæ, and wherever the indication is to moderate spasm or irritation. A large quantity of the flowers will even induce sleep, so active is the narcotic principle it contains." (References given). This distinguished author then, after enumerating a number of diseases in which the plant is useful, and ascribing its value to "anodyne, emollient and gently astringent qualities," alludes to its employment in taking fish (the seeds being fed to them). I will not weary you by referring to a number of other complaints, in which he states that mullein has been found useful, but pass on to the following passage: "Equal parts of mullein leaves and the bark of the root of sassafras, boiled in water and concentrated, then mixed with powdered sassafras bark to form pills, are reputed valuable in the treatment of agues by herbalists." (See Indian Guide to Health). Surgeon Hinckley has reported several cases, in which the paroxysms of intermittent fever were completely prevented by the administration of the warm infusion of the fresh root, (4 ounces of the fresh root to one pint of water, reduced one-half by boiling; of which 2 ounces were given every hour, commencing four hours previous to the expected chill). (*Confederate S. Med. Journal*, January, 1864)."

My own recollection, of the efficacy of this herb, so strongly corroborates the observations of Surgeon Hinckley that I am entirely unwilling to resign it to the "herbalists." Within a few days past I have written to a lady (the wife of a Confederate officer of rank), whose practice, with mullein, was notably successful in my neighborhood, to ask her experience; and that she would give me her recipe. Her reply was prompt, and I give it to you at length:

℞.—"Beat mullein leaves in an iron mortar; strain; and to the juice add an equal quantity of French brandy; in a wine-glass of this mixture put fifteen drops of spirits of camphor, and give just as the chill is coming on. The patient must be warmly covered and in bed before taking, and continue so for several hours after. Now for my experience: When I was told of it my husband had been having chills for seven years. I mean he had never been free from them more than a week or two at a time during that period. He would not consent to try this remedy, until one day, after taking 40 grains of quinine, he had a chill, which was so severe that we both feared congestion, and he said he would try anything. So after the chill had reached its height, I had the leaves gathered and beaten and gave him a dose. As soon as he swallowed it the moisture began to break out on his brow; and in five or ten minutes he was in a most profuse perspiration. He had not the least fever, and did not have another chill for fifteen years. I tried it after that, in, I suppose, fifty cases, *with perfect success*. Our physician in the neighborhood, (Dr. R. K. T.) used to laugh at me about it very much; but the last time I saw him he told me that during the war, when he could not get quinine, he had to resort to it, and found it most efficacious, not only in cases of chills, but in bilious and typhoid fevers. Of course he could not get brandy at that time, but used whisky instead, and usually, the commonest kind. I am glad to hear you are going to sing the praises of this wonderful plant."

I know very well that the carping reader or listener, as the case may be, will object to my adducing lay evidence of this sort, in a paper relating to a scientific subject. I know, too, that he will consider that the case notes detailed savor of inaccuracy and enthusiasm. Such a one, however, is ignorant of the peculiar state of things existing in the South, during the days of Slavery. In regard to the first proposition, he will have to be informed of the especial relations occupied by the cultivated wife of the large Southern planter to her husband's slaves ("servants" as we were taught to call them). This information, happily, I can give from the pen of a distinguished foreigner, the Marquis de Chastellux, a general officer under the Comte de

Rochambeau, in the Revolutionary War. This accomplished gentleman, after the surrender at Yorktown, made a tour of the Union and Canada; and the edition of his delightful work (from which I quote) was published in 1827, by White, Gallagher & White, No. 7 Wall Street, New York. On page 282, after describing the beauties of Westover, the old homestead of the Byrd family, on the James River, (well-known in our day as a part of McClellan's entrenched Camp), and after numerous tributes to the elegance and hospitality of his hostess, Mrs. Byrd, he says: "This lady takes great care of her negroes; makes them as happy as their situation will admit, and serves them herself as a doctor in time of sickness. She has even herself made some interesting discoveries in the disorders incident to them, and discovered a very salutary method of treating a sort of putrid fever which carries them off commonly in a few days, and against which the physicians of the country have exerted themselves without success." In reference to the case detailed, in the letter quoted, in which chronic malaria was gotten rid of by one treatment, astonishing as the result was, I can testify to a similar instance in my father's household, in which quinine had failed, and a successful result was obtained by the use of this lady's mullein-juice preparation.

Undoubtedly our Pharmacopœia is already over freighted with drugs and remedies, many of them inert or unnecessary. But in calling attention to this one, I am not introducing a new title. The plant is already "on the list." No one has greater faith than I in the virtues of cinchona and the salts of its alkaloids, especially quinine and cinchonidia, but, unfortunately, we are now and then compelled to refrain from their use by reason of personal idiosyncrasy. One man is known to me, in whom such alarming hæmaturia occurs after one dose of quinine that he cannot be induced to take it. I have known this symptom to follow a dose clandestinely given by his physician, who doubted the alleged effect. We are all accustomed to see troublesome rashes resulting from quinine and other agents of its series, as well as nervous phenomena, in some patients, which positively inhibit their employment. In the case of a very prominent gentleman, who recently died in this city and who suffered from congestive malaria, his physician gave quinine, perfectly assured from previous knowledge of the idiosyncrasy of his patient, that the nails would be shed. He told me that the result was as anticipated, nails dropping out, and skin desquamating. Arsenic stands us in good stead as a substitute in chronic cases; and Warburg's tincture is popular, with some practitioners, in acute cases. Gelsemium and other resorts we undoubtedly have; but I am sure that an antiperiodic possessing the value which I am confident pertains to this drug, would be gladly welcomed by one and all of us—and I should feel much gratified if our enterprising manufacturing pharmacists should be led to develop its active principles, so as to offer us a convenient form of administration.

1345 F St., N. W.

A CASE OF TRANSVERSE LACERATION OF THE CERVIX UTERI.

Read before the Medical Society of the District of Columbia, May 16, 1888.

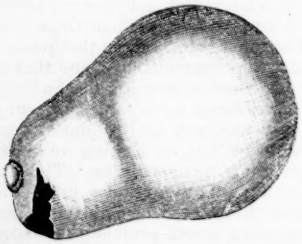
BY THOMAS C. SMITH, M.D.,
OF WASHINGTON, D. C.

On May 2, 1888, I was called to see Mrs. R., colored, 23 years of age, who was seven and a half months advanced in her first pregnancy. Early in the morning she was startled by a sudden gush of fluid from the vagina, and up to the time of my visit there had been an uninterrupted discharge unattended by pain. On making an examination, the os was found undilated, but a watery fluid was passing in small quantities. No signs of labor were manifest at the time, and the patient was directed to remain in bed.

Two days later, May 4, I received another message, and saw the woman about the middle of the day. The nurse informed me that pains came on shortly after my previous visit, and that they had steadily increased in severity, but finding that no progress was being made, she had sent for me. The woman was now having almost continuous expulsive pains, and on making an examination my finger came against the os. This was undilated, and at first I thought my finger was pressing against the anus of the child; in other words, that there was a breech presentation to deal with. But on removing my finger for a moment, and again passing it up to the uterus, I was surprised to find the vertex presenting and the supposed os dilated to a diameter of some two inches. As this apparent change had taken place in less than a minute, I proceeded to make a careful examination, and the following situation was disclosed: The natural os was discovered to be undilated so that I could scarcely pass my finger through it, while the head of the child was found to be engaged in an abnormal opening, which investigation proved to be a tear in the cervix about an inch and a half from the margin of the normal os. This laceration extended laterally about one-third of the circumference of the cervix at the point indicated, and was situated to the left and posteriorly. When the uterus contracted, the head engaged in this opening, while the normal os was absolutely unaffected by the pains.

So interesting a complication in labor induced me to invite a professional brother to make an examination, and finding Dr. J. T. Winter in the neighborhood, he was asked to see the case. After explaining the state of affairs to Dr. W., he examined the patient and satisfied himself that my

explanation was correct. As it was impossible to effect dilatation of the normal os in the presence of the laceration, and as the latter was extending, with the probability that the whole circumference of the cervix would be involved if the direction of the tear did not, indeed, change and involve the body of the uterus, I passed a probe-pointed bistoury through the laceration and out of the os, and divided the tissues so as to convert the lesion into a longitudinal laceration of the cervix. The patient experienced no pain from this procedure, which was unattended by hæmorrhage. Being apprehensive that instrumental interference might be demanded, I went to my office for my forceps, and on returning found that the child had just been born. This was separated, and the placenta delivered without trouble. The only after-treatment consisted in washing out the vagina twice daily with water which had been boiled. The woman has not had an unpleasant symptom since her delivery. A few days ago I made an examination and was hardly able to find the laceration, so well had the work of repair progressed.



Referring to lacerations of the cervix during labor, Lusk makes the following observations:

"Most commonly these lacerations follow a longitudinal direction. In rare cases, where there is extreme rigidity of the os externum, or where, after the escape of the amniotic fluid, the head distends the anterior lip without pressing upon the os, a transverse rent may occur through which the child may pass. Sometimes a longitudinal tear may be combined with one running transversely, the lip then hanging by a pedicle to the uterus, or the entire lip may be torn off. Isolated cases of so-called annular lacerations have been reported, where the transverse rent has extended through the whole vaginal portion, so that the lower segment has been detached in the form of a ring."

The foregoing quotation covers the ground admirably. In my case the os was not rigid, but failed to dilate because the uterine forces were misdirected, while the head distended the *posterior* lip "without pressing upon the os."

Reference to the figure will further elucidate the nature of the lesion present in the case above reported.

MEDICAL PROGRESS.

SALOL IN LUMBAR ABDOMINAL NEURALGIA.—In gouty subjects lumbar abdominal neuralgia has a considerable importance in uterine affections, and frequently persists even after the latter disease has been cured: this is especially the case in gouty subjects, and M. J. CHERON (*Rev. Méd.-Chir. des Maladies des Femmes*, July 25, 1888) recommends in such cases the employment of salol, taken internally. This remedy, according to the author, is well supported by the stomach, and exerts a favorable action on the rheumatic and neuralgic pains. He advises that the salol should be powdered, and 10 grains divided into twenty capsules, of which two to four should be taken daily before meals. In addition to this, an ointment of salol and vaseline in equal parts may be rubbed into the lumbar sacral regions.—*Therapeutic Gazette*, Oct. 15, 1888.

MENTHOL IN PRURITUS LABII.—ALEXANDER DUKE, having seen some time since in the *Journal* an interesting paragraph by Dr. Routh, Jr., on the value of peppermint water in cases of pruritus, I gave it a trial; but finding it only gave slight relief, I applied the crystalized menthol as sold by Shirley and others, for relieving neuralgic pain. The application produces some burning pain at first, but is followed by a most comfortable sense of coolness and relief, which relief I find lasts for days in some cases, and the congested color of the vulva almost altogether disappears. The menthol is applied by rubbing the surface over three or four times with the solid menthol, and I can certainly testify as to its value.—*Brit. Medical Journal*, Sept. 1, 1888.

HELLEBOREUS VIRIDIS IN CARDIAC DISEASES.—DR. CHRISTOVITCH has made a series of experiments on dogs and frogs, and has used the extract of this plant in eleven cases of heart disease. He concludes that: 1. The action of the heart is increased by it, and the fulness of the pulse augmented. 2. Morbid activity of the heart is diminished in cases of excessive cardiac action, 3. Congestions of the lungs, liver and kidneys are relieved by it. 4. The secretion of urine is increased. Christovitch uses a soluble extract.—*L'Union Méd.*, Aug. 14, 1888.

TREATMENT OF INFANTILE CONVULSIONS.—A. VEILLARD recommends the following mixture for the treatment of infantile convulsions: Tincture of musk, tincture of castorium, sulphuric ether, each 32 minims; paregoric, 8 minims. Six drops are given each hour in a teaspoonful of sugared water or a teaspoonful of milk. The intervals may be lengthened as the symptoms become moderated.—*Journal de Médecine de Paris*, August 12, 1888.

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SATURDAY, NOVEMBER 10, 1888.

AN IMPORTANT AMENDMENT TO THE CONSTITUTION OF THE ASSOCIATION.

Every thoughtful member of the American Medical Association must admit that the selection of Officers and Standing Committees, and especially of the place and time of the Annual Meetings, is a duty of great importance; and should be performed in such a manner as to secure the exercise of intelligence and deliberation. And all know that hitherto this important work has been done by the Committee on Nominations, composed of one member from each State and Territory, and from the Medical Corps of the Army, Navy, and Marine Hospital Service, all selected by the members in attendance from each State, Territory, etc., during the first twenty-four hours of the Annual Meeting, and announced by the permanent Secretary on the morning of the second day. The Committee thus selected and announced almost immediately enters upon the discharge of its important duties, and is expected to make judicious nominations for the Officers, Standing Committees, Judicial Council, Trustees for Publication of THE JOURNAL, and to recommend the place and time for holding the next Annual Meeting in a few hours, and then be discharged. No member of the Committee could know that he would be called upon to act in that capacity long enough before going into the Committee room, to enable him to examine the past records of the Association, or even its Constitution and By-laws, much less to make proper inquiries concerning the place and time that would be most advantageous for the Association and the profession to hold its next Annual Meeting. The constant liability to make mistakes and injudicious recommendations by such a Committee has been demonstrated many times during the progress of the Association, and at no time more strikingly than at the recent annual meeting in Cincinnati. The *personnel* of the Nominating Committee selected at that meeting was equal in intelligence and business tact to that of any of the committees appointed at previous meetings, and yet it recommended for local Assistant Secretary one who, at the time, was not a member of the Association, and a *time* for the holding the next annual meeting one month before there would be any adequate hotel accommodations open for the reception of members in the city selected for the *place* of meeting, and the Association adopted the recommendations. Had the Nominating Committee been a continuous business committee, one-half of whose members were selected annually, and their work so arranged that the members who were to make the nominations and recommendations at any given annual meeting would have all the preceding year in which to make necessary inquiries and make themselves familiar with the true interests of the Association, such blunders would be wellnigh impossible. It was solely for the purpose of avoiding the evils of having the most important business interests of the Association conducted in such haste, that an able committee, after much deliberation, recommended at the meeting in 1887 the following amendment to Section V of the Constitution:

The General Committee or Council shall be composed of *two members* from each State and Territorial Medical Society entitled to representation by delegates in the Association, and from the Medical Departments of the U. S. Army, Navy, and Marine Hospital Service. They shall be chosen by the members registered and present at each annual meeting, from each State, Territory, and from the Medical Corps of the U. S. Army, Navy, and Marine Hospital Service, acting separately, on the third day of each annual meeting; each delegation reporting the names of the members chosen to the Permanent Secretary of the Association on the same day, that they may be announced by him at the opening of the morning session of the fourth day. At the first election each delegation shall choose *two* members of the General Committee, one of whom shall serve *one* year and the other *two* years, and at each annual election thereafter one member shall be

chosen to serve for two years, thus making the term of office of members of the General Committee *two* years. It shall be the duty of the General Committee, thus constituted, to organize by choosing annually a Chairman and Secretary, and such sub-committees as may be found necessary to facilitate the work that may be assigned to it; to meet annually at the place and on the day preceding each annual meeting of this Association, and as often during that week as may be necessary; to nominate, on the third day of each annual meeting, all the general officers of the Association (none of whom shall be members of its own body), the members of the Committee of Arrangements, the Committee on Necrology, seven members of the Judicial Council, and three members of the Board of Trustees for Publication for election by the Association; to recommend the place and time of holding the next annual meeting; and to consider and report upon all subjects that may be referred to it by vote of the Association. The presence of one-third of the whole number of members elected to the General Committee shall constitute a quorum for the transaction of business. If, at any annual meeting of the Association, it shall be found at the close of the general meeting of the first day that a quorum of the General Committee is not present, it shall be the duty of the President and Permanent Secretary to fill the vacancies in the Committee temporarily by selections from the lists of delegates registered as present from the States to which the vacancies belong.

Should this provision be adopted by the Association, the Permanent Secretary should be authorized to substitute the name "General Committee" for "*Nominating Committee*" wherever the latter occurs in other parts of the Constitution and By-laws.

When this amendment was submitted to the meeting in 1887 in connection with the full report of the Committee, it was approved by a nearly unanimous vote of the Association. But it could not become a part of the Constitution without lying on the table and receiving the sanction of the next annual meeting. When it was taken up at the next meeting several members opposed it on the erroneous assumption that its adoption would result in taking the business out of the Association and committing it to a Council, somewhat after the manner of the British Association. As there were not enough copies of the amendment present to put one into the hands of each member to examine for himself, its further consideration was postponed until the next annual meeting. If members will now examine it carefully, they will see that by it the proposed Business Committee is appointed by the same process as the former Nominating Committee, and that it has no power to take any business out of the hands of the Association, but simply substitutes a continuous committee so arranged as to enable it to do the work assigned to it deliberately and intelligently, instead of hastily and often imperfectly.

PUERPERAL FEVER A PREVENTABLE DISEASE.

At the opening of the 1888–89 session of the St. Thomas's Hospital, London, DR. CHARLES J. CULLINGWORTH, the obstetric physician to the Hospital, delivered an address on "Puerperal Fever a Preventable Disease," a plea for the more general adoption of antiseptics in midwifery practice. The address deals to some extent with statistics, and though short, it contains facts of importance to those that claim that childbirth is a simple physiological process, and to the few that hold that antiseptic midwifery and meddlesome midwifery are synonymous terms.

The profession will remember the astonishment, not to say incredulity, caused some eighteen years ago by Dr. Matthews Duncan's conclusion from careful investigation that "not fewer than 1 in every 120 women, delivered at or near full term, die within the four weeks of childbed." The late Dr. Farr, who in 1856 had declared the mortality of childbed in England and Wales to be 1 in 189, at first denounced Dr. Duncan as an alarmist, but before he died he admitted that the mortality was 1 in 129. From the Registrar-General's returns of puerperal mortality in England and Wales, it is seen that in the three years 1867–69 there were 2,228,588 children born alive; the deaths from childbirth were 10,198 (from puerperal fever 3,343), being an average mortality per 1000 of 4.37. In the three years 1884–86 there were 2,704,886 children born alive; deaths from childbirth 12,673 (6,966 from puerperal fever), giving an average mortality per 1000 of 4.68. While it is most probable that the figures of the Registrar-General are below the truth, still we see that within the three years 1884–6 there was an average of 2,322 deaths from puerperal fever in England and Wales. Other, and we may say more reliable, statistics, go to show that puerperal fever is accountable says Dr. Cullingworth, for from 65 to 75 per cent. of all the deaths from childbirth.

It is almost one hundred years since Dr. Alex-

ander Gordon published his account of an outbreak of puerperal fever that occurred in Aberdeen in December 1789–March 1792, giving a table of 77 cases that came under his own care. He showed that the midwives, nurses, and physicians were directly responsible for the continuation and spread of the disease and said: "It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women. . . . . I arrived at that certainty in the matter that I could venture to foretell what women would be affected with the disease upon by hearing by what midwife they were to be delivered or by what nurse they were to be attended during their lying-in, and in almost every instance my prediction was verified." We have similar testimony from Mr. Robertson, of Manchester, in regard to an outbreak in the maternity department of St. Mary's Hospital in 1830, due to one infected midwife, and from Mr. Blackmore in regard to an outbreak in Plymouth in 1831. In 1847 the mystery was cleared up and the first seeds of antiseptic—or aseptic—midwifery were sown by the immortal Semmelweiss.

Nothing has done more to retard the acceptance of the principles of antiseptic midwifery, and thus the practice, than that "confession of ignorance, the creed of fatalism, the very pessimism of obstetric medicine," the doctrine of autogenesis. It is impossible to see how anyone can read the statistics from the Lying-in Hospital of Vienna, from the Dresden clinic, the Paris Maternité, the New York Maternity, the Boston Lying-in Hospital, and other institutions, without being convinced of the utter fallacy of the theory of spontaneous infection. No stronger arguments can be brought forward than the facts and figures already at hand. Let us look at some of these figures of pre-antiseptic and antiseptic periods. In the Vienna Lying-in Hospital from 1863 to 1880 the rate per 1000 from puerperal fever was 11; in 1881–1885 it was 4. In the Dresden clinic the mortality per 1000 from puerperal fever was 8.7 in 1884, 1.4 in 1885, 1.4 in 1886, and 0.7 in 1887; in 1872 the mortality was 50 per 1000. In the Vienna Hospital from 1881 to 1885 there were 15,070 deliveries, with 2543 obstetrical operations, including 9 Cæsarean sections. In the Dresden clinic out of 2,775 women delivered in 1886–87, 396, or 14 per cent., required operative interference; 27 of the patients had eclampsia, 23 had placenta prævia, and 224 had well-marked contraction of the pelvis. In 1886, 77.8 of the patients in the Dresden clinic made perfectly normal recoveries, and 95 per cent. in 1887. In 1883 the mortality per 1000 from sepsis in the New York Maternity was 60.6. The antiseptic midwifery was inaugurated in the institution, and in 1884 the rate fell to 5.9, to 1.8 in 1885, and was 2.1 in 1886. In the Boston Lying-in Hospital the mortality from sepsis was 55.5 in 1882, 45.8 in 1883, 16.1 in 1884, 6.4 in 1885, and 0 in 1886.

A little more than a year ago Koch said that septicæmia was beyond the grasp of the pathologist in Germany, as antisepsis had succeeded in almost extirminating the disease in that country! (Senn: Four Months among the Surgeons of Europe, p. 63.) In the lying-in department of the Bürger Hospital in Strassburg "the antiseptic precautions are so thoroughly carried out that puerperal sepsis has never been known to originate in the walls. A small building, isolated from the main building, serves for the reception and treatment of infected patients from the city and surrounding country, and here the student finds the only opportunity to study at the bed-side and the post-mortem room the infective diseases incident to child-bed."

There is still a notion abroad, says Dr. Cullingworth, (*British Medical Journal*, Oct. 6, 1888) that this question of puerperal fever is one that chiefly concerns the lying-in hospitals. But one would scarcely suppose that the 2,708 deaths from puerperal fever in England and Wales in 1886 were all hospital cases; as a matter of fact almost 66 per cent. of them occurred in counties where no hospital exists, and as to the remainder, the lying-in hospitals of England and Wales are so few that they cannot be accountable for more than a small number of these. In a country town not far from London, says Dr. Cullingworth, puerperal fever has singled out the patients of one local practitioner. For six months every patient he attended, except two, in whom labor was completed before his arrival, died of puerperal fever. "The only way to avoid this terrible mortality, and to avoid also the enormous amount of puerperal disease which, because it is not fatal, remains unrecorded, is for every practitioner in midwifery to recognize his personal responsibility in the matter."

BRAIN OVERWORK IN CHILDREN.

The Chicago *Tribune* says: Dr. Charcot, the great French physician, says that children under 16 cannot have their brains overworked. No forcing, he asserts, will get out of them more cerebral work than the brain will accomplish without fatigue. It is not till after the age of 16 or 18 that forcing becomes possible.

It is extremely doubtful if M. Charcot ever made such a statement as the above. Such an assertion is reckless, because one cannot draw a hard and fast line at 16 years of age. If all children of 16 were made on the same mould, all had the same muscular development, all the same amount of nervous force, and the same degree of brain-development, it might be allowable to make some definite statement of the kind quoted. But to quote M. Charcot as authority for the above is dangerous, since the outcome may be that children already overworked may be seriously injured by unthinking parents or teachers.

"PROTECTION OF THE MEDICAL PROFESSION."

The following significant communication appears in the *Lancet* of October 13:

"There can be no doubt that it is high time for the great body of general practitioners to take some steps to protect themselves against the present rush of men into the profession, which is out of all proportion to the numbers leaving it, and as a result of which medical men are reduced to practice all manner of shifts to gain sufficient to merely exist. Medical ethics are becoming a dead letter, and a once noble and honorable profession is becoming little better than a trade. It behoves every medical gentleman to exert himself to the utmost to save his profession from dishonor.

"I beg to offer the following suggestions for remedying the present condition of things: 1. That every member of the profession in Great Britain and Ireland be canvassed as to the advisibility of forming an association for the protection of the profession. 2. That the number of candidates admitted into the profession by the various corporations be regulated according to the vacancies occuring in the profession, as is done in the army and navy. 3. That a fee be fixed below which a medical man may not charge, and if his client be unable to pay, let him rather give his services for nothing. 4. That the remuneration of all appointments be regulated by a council of the profession, and that no man shall take an appointment in opposition to this council."

"Medical Ethics are becoming a dead letter." In spite of the assertions of some of our cis-Atlantic, no-ethics contemporaries, we have here evidence that there is a Code of Ethics in Great Britain.

The suggestions offered by the *Lancet's* correspondent are more in the line of trades-unionism than anything we have ever seen proposed. An association for the protection of the profession would undoubtedly be a good thing if conducted on correct principles. Suggestion No. 2 would seem to be but a Utopian dream—if Utopian. The third suggestion seems unadvisable under any circumstances, would be productive of results almost as bad as are now complained of, and would stamp as paupers many people that are not paupers. And after all, the profession in England is not so overcrowded as in the United States,

EDITORIAL NOTES.

SMALL-POX IN ONTARIO has assumed such a threatening aspect that the Board of Health urges people that have not been vaccinated to be vaccinated immediately.

THE FACULTY OF MEDICINE OF PARIS received this year 373 Doctors of Medicine, including 327 French and 51 foreigners. On October 9th there were 3,668 male and 114 female students.

MENTAL ALIENATION IN NEW ZEALAND.—Dr. E. W. Alexander states that of 1,613 insane in the asylums in New Zealand, 1,302 are of foreign birth. Among the 111 native insane 21 are of the aboriginal or Maori race, which now number about 50,000,

NAPLES, it is to be hoped, will be more healthy when the now complete plans for its sanitary rehabilitation are carried out. The rookeries in four of its sections are to be demolished, and good dwellings erected. Drainage will receive careful attention, and the city is to have a sound and permanent system of water-supply.

DEATH DURING HYPNOTISM.—A Louisville paper says that at Hopeston, Ill., recently, Dr. I. N. Bishop extracted a tooth for his wife and at-

tempted to relieve her pain by an exercise of his mesmeric powers over her. He made a few movements over her face, when she screamed and fell dead. She was not subject to heart disease.

THE LOS ANGELES PEST-HOUSE seems to be in bad odor with the citizens of the place, according to the Los Angeles *Times*. It is badly in need of repairs, the residents in the neighborhood wish it removed, and threaten to get out an injunction against any repairs on it. The residents in the neighborhood where the new pest-house is to be located have already sworn out an injunction against the building of it.

EXPERIMENTAL URÆMIA IN PREGNANCY has been produced in pregnant rabbits by DRS. CHARPENTIER and BUTTE, with the view of determining the influence of uræmia upon the fœtus. They found that the fœtus died before the mother, the fœtal blood and tissues always containing a larger percentage of urea than those of the mother. The probable explanation is that the fœtus is unable to get rid of any part of the urea by excretion, while the mother can do so.

SINGULAR CASE OF SELF-MUTILATION. — A Dublin medical student, who had been subject to delusions for some time, recently removed both his eyes, and has refused to give any explanation of the occurrence. The act was committed in a field, where were found a blood-stained walking cane and a piece of wire, which were probably used to remove the eyes. The unfortunate young man was found lying down, about a hundred yards from the stick and wire.

TREATMENT OF PENETRATING SHOT-WOUNDS OF THE ABDOMEN.—DR. W. B. COLEY analyses, in the Boston *Medical and Surgical Journal*, 74 cases of penetrating shot-wound of the abdomen. Of these 29 recovered, giving a percentage of recoveries of 39.5. The cases are divided into three classes: Class I contains cases operated on within the first 12 hours; 39 cases—18 recovered; 43.6 per cent. recovered. Class II, cases operated on after 12 hours; 22 cases—5 recovered; 22.7 per cent. of recoveries. Class III, cases in which the time of operation could not be ascertained; 13 cases—7 recovered, 5 died, 1 doubtful; 57 per cent. of recoveries. The causes of death in the cases that did not recover were as follows: hæmorrhage 4 cases, peritonitis 9, shock 8, wounds not found by operator 4, pneumonia 1, acute pericarditis 1. Dr. Coley's classification shows very clearly the advantage of an early operation, the percentage of recoveries in cases operated on during the first 12 hours being nearly double that of cases operated on after 12 hours.

LOSS OF MEMORY FROM AN ACCIDENT, while curious, is not so very rare. On October 30 Dr. Hillebrand, of Freeport, Ill., was exercising a colt. The horse became rather restless and unmanageble, and that is the last thing that the doctor remembers concerning the accident. He was discovered lying unconscious in the street, and immediately taken to his residence. Dr. Buckley was summoned without delay, and after examination discovered no bones broken. The left wrist was sprained and his face and head cut and badly bruised. It was some hours before he regained consciousness, but, as above stated, remembered nothing of the runaway, and even on the next day could not recall any particulars of the accident. The doctor is suffering considerable pain, and will be compelled to remain indoors for some time.

THE HAMMOCK AND THE SWING.—A writer in the Chicago *News* gives the result of an experiment, showing that the instinct of children has in it not only a love for recreation of a choice sort, but a sanitary common sense. A number of swings were suspended at a summer home for children, and near by were swung two dozen hammocks. The latter were almost always full, but the swings rarely were in use. The hammock is the most natural invention to give perfect rest and ease to the whole body, with a delicious sense of motion and activity. Every home should have several hammocks swung under trees, for the use of both adults and children. It will tend greatly to relieve the strain of everyday toil, and to sweeten the intercourse of its members.

THE MEDICAL STUDENT'S PARADE in Toronto on the night of October 31 ended in a serious affair. While the students were on their way home they stopped in front of the house of Dr. McCully, a specialist, who is dubbed a quack by the local profession, and commenced to groan and hoot. McCully appeared at an open window with a gun. This angered the students, and they commenced to throw bricks and stones. McCully then fired three times at them. Harry

Oldright, son of Dr. Oldright, received an ugly wound in the leg, and three others were slightly wounded. The gun was loaded with buckshot. Dr. Oldright swore out a warrant against McCully, and he was arraigned at the police court and remanded till to-morrow. The affair has caused great excitement.

A POCKET CLINICAL PNEOGRAPH has been devised by DR. MORTIMER GRANVILLE, and is manufactured by Weiss, of London. It consists of a delicately suspended and counterpoised semi-disc (made of talc), which rises and falls when the instrument is held over the mouth of a recumbent person, or swings vertically when held in front of the mouth of a person sitting or standing. The remainder of the apparatus consists of an arrangement similar to that used in the sphygmograph, by which the smoked paper is moved under a needle attached to the semi-disc. The tracing made by the needle is about as long and of a similar character to that made by the needle of the sphygmograph. The character of expiration is shown by the tracings, and some notable and apparently significant differences are seen in the results obtained in various pulmonary conditions.

THE ENGEL CREMATOR AT MILWAUKEE.—It has been decided to construct in Milwaukee a cremator similar to the one in operation in Minneapolis. It is thought that the cremator will be in operation by November 20. The furnace in Minneapolis is of the Engel pattern with numerous improvements. It is 32 feet long, 8 feet high and 5 feet wide. This is enclosed in a large building, inside of which are elevated drive-ways to the dumping spouts. The cremator is absolutely smokeless and odorless. The process of cremating is one of total destruction, all material being reduced to a fine, light-colored ash. At Minneapolis, while the Health Commissioner of Milwaukee visited the institution, six horses, a cow, and fifty dogs were dumped into the cremator, and in four hours had been reduced to ashes. The cremator, which has two fires, one to consume all noxious fumes, is capable of burning an unlimited amount of garbage or dead animals. Drawings have been made of the parts of the furnace for Dr. McIntosh, of Chicago, who will prepare them for the stereopticon. They will be shown before the annual meeting of the American Public Health Association to be held in Milwaukee the latter part of this month.

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting May 16, 1888.

THE PRESIDENT, T. C. SMITH, M.D., IN THE CHAIR.

(*Concluded from page 602.*)

Dr. Swan M. Burnett was called to the Chair.

DR. THOMAS C. SMITH read the history of

A CASE OF TRANSVERSE LACERATION OF THE CERVIX UTERI.

(See p. 665.)

DR. BUSEY: The management of the case was correct, and the result was satisfactory. Primary trachelorraphy was not now often practiced. It was not always free from danger, and the result was usually unsatisfactory. In very many cases lacerations of the cervix would heal without operative interference. The causes of this particular form of laceration were not easily understood. In this case there was, probably, a combination of circumstances and conditions. The labor was premature. The physiological changes which take place in the tissues of the cervix coincident with the progress of pregnancy had not been completed. The tissues had not reached that stage of maturity which promotes and facilitates dilatation. The amniotic fluid had escaped prematurely and consequently the dilating influence of the bag of waters was absent. There was also probably mal-position of the presenting vertex. In consequence of the rigidity and non-dilatation of the cervix and os extension was delayed or arrested, and the vertex was driven against the thinned posterior wall of the lower uterine segment at the point where the laceration began. In proper position of a vertex presentation in natural labors the vertex should occupy the center of the orificial dilatation. In this case it impinged against the attenuated wall of the lower segment posterior to the cervix. These three conditions may have been present. He suggested them as possible causes of the laceration.

DR. SMITH: Labor had not begun when he first saw the patient. The condition of the cervix was just as Dr. Busey had described it.

DR. KLEINSCHMIDT: Agreed with the explanation offered by Dr. Busey. In support of the statement of the unprepared neck he would call attention to the fact that it is more likely to tear in premature labor and abortions.

DR. SCHÆFFER: Might not the tear have been due to a brittleness or tissue-change at the point of rupture rather than to mal-position?

DR. SMITH: It is not usually found in primiparæ.

DR. H. L. E. JOHNSON: Thought the case one

of rupture above the os uteri, and not laceration of the cervix as usually understood. Thought it suggested attempted abortion; that some instrument had been passed into the os rupturing the membranes prematurely and uterus at point of injury, or predisposing it to tear. It is unusual for the membranes to rupture so early in premature labor, that is, before any obliteration of the cervix or dilatation of the os, or with such slight pains, in the absence of mechanical interference. Dr. Smith does not state whether hydramnios or disease of the membranes existed, predisposing to rupture. That point should have been determined. He did not agree with Dr. Busey that rupture was caused by flexion of the head, as that is the normal and first part of the mechanism in L. O. A. presentations. Until flexion did take place the fœtal head could not come in contact with the cervix uteri. He did not agree with Dr. Busey that exaggerated flexion caused the trouble, because the more flexion we have the more the small diameter of the head is made to correspond with the diameters of the pelvis. He agreed with Dr. Smith's treatment. The cervix should not have been operated upon at the time, and the result bears this out. He had examined a large number of patients between two and four weeks post-partum, and a large number of lacerations known to have occurred had healed—in some cases extensive bilateral lacerations. He had operated primarily on a case of lacerated cervix and the result was worse than the original injury.

Dr. Smith: In this case there was no deformity of the pelvis. At his second visit the child's head was in the position of flexion and was descending. The rapid transit of the head through the pelvic cavity would indicate that there was no deformity.

Dr. C. W. Johnston believed that in a certain proportion of the cases mentioned by Dr. H. L. E. Johnson, and in others of a like nature, where a laceration of the cervix seen immediately after labor, at a later date is found to have disappeared, the patient's condition after healing has taken place is no better than before such healing occurred. The angles of laceration in such cases have been closed by granulation and cicatrization, and it is doubtful if this kind of healing produces a more happy result than no healing at all. Theoretically it was quite possible for lacerations of the cervix to heal by first intention, and clinically cases are occasionally found where such union has occurred. If union by first intention, however, does not occur it may at least be considered immaterial whether healing by second intention subsequently takes place, or whether the parts afterward remain separated. In the light of what we daily observe as to the pathological moment of the so-called cicatricial plug, healing by any means other than first intention is not to be especially wished for. While a certain proportion of our trachelorrhaphies are undoubtedly performed for the single purpose of uniting edges which have been disunited and have remained apart, yet still in a large number our main effort is directed to the removal of the cicatricial material which has been deposited in the angles of the wound—a form of healing which, as has been said, is of no value to the patient.

Dr. H. L. E. Johnson: He thought it best to allow the wound to heal by granulation. Did not agree with Dr. J. that the cervix healed by granulation would present a cicatricial line which would give as much disturbance as if it had not healed, and require the operation ultimately. No such operation is required or has ever been done (viz., stitching up a cervix which has healed and have it heal a second time by an operation). It is those cases lasting a long time and not healing, and in which histological changes have taken place and produce local and reflex symptoms which require surgical treatment for their cure. He could not agree with Dr. J. that a cervix could heal by first intention. Thought it impossible—a physical impossibility—as the lochial discharges would pass between the rent, and also the cervix being a muscular or musculo-fibrous organ its normal tonicity and contractility would separate the edges and prevent union by first intention. The pressure of the vaginal walls is insufficient to keep the edges in apposition. Nearly every parturient cervix is lacerated to a greater or less extent. Few require operation. The presence of these cicatricial lines is one of the points to be remembered in forming an opinion as to whether or not the patient had borne children. They cause no symptoms and require no treatment.

Philadelphia County Medical Society.

Stated Meeting, September 12, 1888.

The President, J. Solis Cohen, M.D., in the Chair.

(*Concluded from page 641.*)

SYPHILIS OF THE LARYNX, TRACHEA, AND BRONCHI.

Diagnosis.—Differential diagnosis between secondary and tertiary lesion is sometimes difficult, particularly in the transitionary period especially described by Whistler. The discriminating characteristics are less well marked in the laryngeal syphilis, perhaps, than in any other variety.

It may, however, be broadly stated that secondary lesions, erythematous, papular condylomatous or paralytic, are superficial; and that tertiary lesions are gummatous, ulcerous, carious, necrotic and deep-seated. Laryngitis occurring within a few months of infection is almost invariably secondary. Lesions appearing before the

termination of the third year are presumptive secondary; those appearing within the third year, secondary or transitional; and those appearing after the termination of the third year, tertiary. Nevertheless, secondary lesions may be ulcerous, and undoubted tertiary manifestations have been recognized even within nine months of infection.

The history of the case, and the previous or actual presence of manifestations of syphilis elsewhere, are the main positive factors in the diagnosis of specificity, especially in the earlier stages of either variety. The later lesions of tertiary syphilis are often sufficiently characteristic; sometimes not at all so. In cases of doubt, antisyphilitic treatment will almost always detect a lesion of syphilitic origin, but not invariably. Hence, in instances of strong suspicion, the various methods of antisyphilitic medication should be thoroughly tried before the test is abandoned. This suspicion is justifiable in cases of obstinate chronic laryngitis, whether ulcerative or not, in individuals in whom no other appreciable local or constitutional cause can be detected.

Laryngoscopic inspection is an invaluable aid in diagnosis; though practically indispensable, it is inadequate for fully appreciating the extent of deeply seated lesions; and its revelations are not always sufficient to establish the diagnosis in the absence of corroborative lesions elsewhere. Erythematous and catarrhal inflammation of secondary syphilis, when diffuse, are not to the ordinary eye distinguishable from similar non-specific conditions. Circumscribed erythema, though usual in syphilis, occurs in non-specific laryngitis also, consequently that condition alone is insufficient for discrimination. Patchy erythema on the vocal bands, and elsewhere, may be regarded as characteristic. Not so, however, the shaded pigmentations at the extremities of the vocal bands.

Symmetric bilateral localization of erythematous and other patches is highly characteristic of secondary syphilis; but a contrary condition by no means excludes the diagnosis. Isolated bilateral congestions of the supra-arytenoid structures and of the Wrisbergii has been cited as pathognomonic. Nothing can be more fallacious or misleading. Enlarged inguinal and post-cervical glands furnish excellent corroborative testimony of syphilis.

Papules, or condylomata, upon an erythematous mucous membrane, are to be considered pathognomonic. Their recognition may require an exceptionally good light on the one hand, or repeated examinations on the other. They must be carefully discriminated from minute collections of mucus or of saliva.

Diffuse gummous infiltration is to be distinguished first from inflammatory syphilitic infiltration by the coexistence of gummous processes elsewhere, its more circumscribed contour, and its sharper definition. Differential diagnosis is much easier after it has reached the stages of liquefaction and ulceration.

Syphilitic ulceration usually proceeds from above downward, rarely in the opposite direction, and often in extension from ulceration in the pharynx. Repair usually proceeds from below upward. Apart from these guides there is nothing positively characteristic enough to determine an ulceration to be syphilitic in character by mere inspection.

The absence of pain has been regarded as characteristic; but, on the one hand, carcinomatous ulceration often exists without pain, and on the other hand, the ulcerative lesions of syphilis are sometimes attended with lancinating pains of the most severe character.

In the gummatous stage of tertiary syphilis diagnosis is not difficult. They may be confounded with other neoplasms, and with abscess. In cases of doubt, antisyphilitic treatment should clear up the diagnosis. The physical distinction between gummata and condylomata may in some instances be obscure (Semon).

The main reason why gummata are so infrequently seen as to have led some observers to an erroneous opinion as to their rarity, is that many patients do not present themselves until after the stages of liquefaction and ulceration have become established. When this stage has not been observed, and the larynx, as is more usual, is not inspected until after ulceration has considerably progressed, the appearances are not always characteristic. They may be confounded with those of lupus, carcinoma and tuberculosis. The general diathesis, the clinical history, the existence of enlarged submaxillary and post-cervical lymphatic glands, the character of concomitant affections of the skin and mucous membrane, the aspect of the patient, assist in discrimination. Sometimes, too, tuberculous and syphilitic lesions coexist.

The typical tertiary ulcer, sharply defined, and below the surface of the mucous membrane, is more or less circular when recent, more or less crenated when reparation is taking place at one or more points of the circumference, and looking as though cut out with a punch when in œdematous tissues. Its borders are sharp, elevated, but not often undermined, and more or less rounded in their visible outline, and are surrounded by a more or less circumscribed inflammatory areola in the mucous membrane. The bottom feels hard to the probe on palpation. The bed of the ulcer is grayish, or lardaceous, yellow from fatty detritus, and covered with adherent concrete pus, through which, here and there, prominent rosy granulations often project. The surrounding tumefaction is harder and more indurated than in other varieties of ulcer. Purulent accumulations are rather indicative of the syphilitic process. At a later date denuded or necrosed cartilage may be visible in suitably located ulcers.

In cases in which neoplasms have become developed at the seat of existing ulcerations, or of

cicatrized ulcerations or erosions, it is often impossible to pronounce as to their nature, even by the test of antisyphilitic treatment. Not only do such neoplasms exist independently of the syphilitic process, or as the result of irritation provoked by syphilitic process in the vicinity, but, when undoubtedly syphilitic in origin, they rarely disappear under specific medication. Tertiary syphilis is usually recognizable in the stages of œdema of the larynx; and almost always in the reparative stages of cicatrization, or in the subsequent stages of stenosis, whether from cicatricial retraction or from organization of effused products.

Prognosis.—Secondary lesions, even when ulcerative, are most frequently curable without cicatrix or without any other sequel. Exulceration of the vocal bands sometimes leaves permanent defect of tissue. The prognosis is good except during temporary conditions of œdema, when it may be grave for the time being. The inflammatory congestion and turgescence is more chronic than in catarrhal inflammations, and are often recurrent. Actual hyperplasia is apt to remain permanent, even after cure of the syphilitic lesion, despite the most assiduous treatment; and when it occupies a vocal band the voice may be permanently impaired. The singing voice may remain imperfect, although the conversational voice be fully restored; the injured tissues being unequal to the nicety of adjustment requisite for cantation.

In tertiary lesions the prognosis depends mainly on two factors: First, on the impairment of the general health, and the significance of lesions elsewhere, especially in the brain and meninges, and in other important organs. Second, in the extent of ulceration and the character of deformation or stricture which may follow. Temporary gravity exists in the presence of œdema; during the period of exfoliation of necrosed cartilages, and in acute bilateral paralysis of the dilator muscle, the result of exposure to cold or other cause, or to unilateral paralyses when the opposite side is immobile from gumma, or from crico-arytenoid ankylosis (Charazac: *Rev. Mens. de Lar.*, Sept., 1884), any of which conditions may demand prompt tracheotomy to prevent death by suffocation. Ulcerative lesions of the trachea may be fatal by hæmorrhage from penetration of large blood-vessels; by pneumonia from access of food through perforation of œsophagus (Berger); or by septic processes due to rupture of the mediastinum. Permanent impairment of the voice is to be expected in all cases in which the vocal bands undergo serious injury, and in many in which permanent changes are likely to take place in other structures contiguous to the glottis.

Glutition is rarely affected, even after complete destruction of the epiglottis; and in exceptional cases difficulty is mainly confined to fluids swallowed without deliberation.

Stricture rapidly supervening upon hyperplasias is often amenable to active treatment, sometimes with striking rapidity (Krishaber: *loc. cit.*); but the more frequent stricture of slow progression can only exceptionally be brought under control.

Serious danger attends even cure of extensive ulcerative lesions in the interior of the larynx, for the resulting stricture, if severe, is likely to necessitate tracheotomy, with great probability of permanent retention of a canula. It is rarely amenable even to excision of cicatricial tissue by external access. Subglottic stricture is much more serious than supraglottic, and tracheal far more serious than laryngeal stricture. Stricture of the trachea, when low down, is practically insusceptible of amelioration; and death by slow apnœa, or by sudden suffocation, is the usual outcome.

When the syphilitic cachexia has advanced so far as to have produced incurable lesions in important viscera or in the cerebrum, death may ensue from these causes despite sustained cure of syphilitic lesions in the larynx. In cases complicated with paralysis of the dilator muscles of the larynx from cerebral lesion, the death may take place by occlusion of the glottis and suffocation, or by encephalitis and coma.

In hereditary syphilis the prognosis is very much the same as in tertiary syphilis; being much worse in infancy and childhood than in more delayed manifestations. The small size of the larynx renders stricture and intercurrent œdema far more significant; and the tendency to spasm of the larynx inherent to all laryngeal affections in childhood presents an additional element of danger. Fatal issues from these three causes are not infrequent. An element of uncertainty as to the final result remains in all varieties of syphilis of the larynx and trachea, due to the fact that permanent liability to recurrence prevails in many instances, despite the best apparent results of the most judicious treatment; and often, too, after prolonged intervals of immunity from any further manifestations of constitutional syphilis.

Treatment.—Fortunately, lesions even of great destructive and menacing tendency are amenable, as a rule, to treatment; often promptly.

The treatment, broadly stated, is that applicable to constitutional syphilis in general; mercury in the early manifestations and iodides in the late ones. In many of the latter, if not most, the mixed treatment combining the two specifics is the most serviceable. In congenital syphilis the gray powder is believed to be the most efficacious form of the drug. While willing to admit that secondary lesions often subside without traces and without much risk of subsequent tertiary manifestations, although mercury be withheld, I deem it the more prudent practice, and therefore best practice, to employ mercury; in the belief that its specific constitutional influence affords

the patient better protection as to future manifestations. As to the value of iodides in tertiary syphilis, there is no difference of opinion. Tonics are often indicated. All sources of irritation, exposures, excessive use of the voice, alcohol and tobacco, are to be avoided.

Sedative inhalations in vapor or spray are often of great topical benefit in subduing collateral inflammation; and antiseptic inhalations are indicated in gangrenous cases.

Secondary syphilis. Mercury may be administered by the stomach or by the skin. When the lesions are moderately severe or slow in progress, the corrosive chloride may be administered in doses of from $\frac{1}{16}$ to $\frac{1}{8}$ grain, three times a day. The green iodide may be given in doses gradually increased from $\frac{1}{8}$ of a grain three times a day to the point of tolerance. The addition of extract of belladona may cause it to be better borne by the stomach. In individuals in whom serious gastric disturbance is produced before any specific effect has been noted, and in seriously severe cases and cases of rapid progress, inunctions of a drachm of mercurial ointment daily are preferable, or pencilings with solutions of oleate of mercury in oleic acid, 10 per cent. Lewin prefers hypodermatic injections of corrosive chloride. Concurrent stomatitis is to be combated by the internal administration of potassium chloride, or the use of a saturated solution of that salt, or of a weak solution of potassium permangante as a mouthwash. It is hardly necessary at the present day to mention that salivation is to be avoided. In my own experience topical medication is, as a rule, superfluous in non-ulcerative secondary syphilis, and often unnecessary in the presence of ulceration. When topical medication seems necessary, inhalations of sprays of corrosive chloride (Demarquay) half an ounce or more daily of a solution containing 1 grain to 4 ounces of water are useful locally and constitutionally. In particularly obstinate conditions, especially in the presence of hyperplasias, the topical applications of solutions of iodine and potassium iodide in glycerine (Schnitzler) half a drachm and a drachm respectively to the ounce, made daily or at longer intervals sometimes accelerates the cure.

In the transitional stage and in the tertiary stages, the mixed treatment has been the most beneficial in my own practice; $\frac{1}{16}$ to $\frac{1}{8}$ of a grain of the corrosive chloride, 5 to 10 grains of potassium iodide in half an ounce or more of the compound syrup of sassaparilla, three times a day. It may sometimes be necessary to increase the dose of the iodide up to the point of tolerance. In such cases the "grain to drop" solution is the most convenient preparation. The danger of inducing œdema of the larynx by sudden large doses must not be forgotten. When necessary sodium or ammonium iodide may be substituted for the potassium salt, or hydriodic acid may be employed.

In the presence of œdema, hypodermatic injections of corrosive chloride (Lewin), $\frac{1}{30}$ gr., twice a day for a day or two, and after improvement, at intervals of three days or more, have proved quite efficacious. If amelioration is not prompt, and if the patient cannot be carefully watched by an attendant competent to interfere in an emergency, it is best, in my opinion, to perform prophylactic tracheotomy, instead of awaiting its urgent indication. The same rule is applicable to threatening cases of extensive hyperplasia, whether from specific or from non-specific infiltrations.

Nevertheless, remarkably happy results, even in urgent cases of these kinds, have frequently followed active treatment by inunction (Krishaber) and by hypodermatic injection (Lewin). Intubation of the larynx from the mouth (O'Dwyer) has been recommended as applicable in many instances of œdema and constriction heretofore treated by tracheotomy. As yet, I know of no experience with intubation in this special connection.

Ulcerations heal more promptly when the constitutional treatment is seconded by topical cauterizations with fused silver nitrate, or with mercuric nitrate, 1 part to from 4 to 10 of water, or with cupric sulphate in crystal, or saturated solution. Chromic acid, 1 part in from 5 to 8 of water, has long been extolled (Isambert). Some prefer iodoform (Morgan). On the other hand, extensive ulceration often heals promptly under the influence of constitutional treatment alone.

Vegetations, detached flaps of mucous membrane, and semi-detached fragments of necrosed cartilage, call for operative removal with cutting forceps, evulsion forceps or snares, as may be most convenient, when these products are so located as to interfere with freedom of respiration or to threaten such interference. When these manipulations are impracticable, tracheotomy may be requisite. When tracheotomy has been performed under any of the conditions mentioned, the canula is to be removed as soon as it has become apparent that its retention is no longer essential to the safety of the patient. Cicatricial stricture of the larynx may be treated by the introduction of the intubation tube through the natural passages (O'Dwyer). This treatment may be applicable to stricture high up in the trachea. Stricture in the middle portion of the trachea requires low tracheotomy and the introduction of a tube long enough to reach beyond the constriction. Stricture at the bifurcation is hopeless.

Paralyses, even those of the posterior crico-arytenoids, are usually amenable to anti-syphilitic treatment even when of considerable standing. This fact seems to indicate that the atrophy found in necrotic paralysis is not due to simple inaction of the muscle, but rather to trophic impairments of neurotic origin. Electrization may be employed when relief does not ensue from systemic medication.

Membranous webs, occluding the glottis from side to side, are divided by incision or by galvano-electric-cautery, the edges cauterized, and readherence prevented, if possible, by frequent introduction of dilating sounds. These laryngoscopic operations are often rendered futile by insurmountable tendency to recicatrization, whereby the morbid condition is reproduced. Success in cases of this kind would seem to require exposure of the interior of the larynx by external division of the thyroid cartilage, and excision of the whole of the cicatricial tissue (Mackenzie).[1]

When syphilitic laryngitis has existed for a long time, such an amount of destruction may have taken place, and such a degree of systemic poisoning, as to render recovery impossible. The constrictions produced by the cicatrices of extensive ulcers, and the adhesions between adjoining surfaces, in cases that recover, are often such as to render tracheotomy necessary, with the permanent use of the tube; for the constrictions following syphilis are not, as a rule, amenable to dilatation.

Threatened asphyxia or unconquerable dyspnœa, from gumma, loose cartilage, morbid growth, abscess, or œdema, may necessitate tracheotomy. Tracheotomy for the purpose of conquering dyspnœa due to tumefactions in the larynx is perfectly justifiable and usually successful. It is likewise justifiable for the mere purpose of securing rest to the organ—much more so, indeed, than in analogous conditions attending tuberculosis.

The treatment for local adhesions consists in relieving the tension as far as possible by laryngoscopic division of the constricting bands of tissue, with knife or with electric cautery, and then cauterizing and recauterizing the adjacent surfaces, to prevent fresh adhesions. These cases require careful watching and prompt attention to overcome the disposition to recurrence, which is very apt to take place in spite of all efforts. When the epiglottis is implicated, much good can be done by teaching the patient to move the organ frequently by means of his forefinger.

In a case of stenosis due to "concentric hyperchondrosis," as a result of the hyperplastic chondro-perichondritis, Prof. Heine performed a successful resection of the anterior portion of the thyroid cartilage, splitting that structure in the middle line, separating the perichondrium and superjacent soft tissues, to the distance of one-half its surface on the two sides, with the elevator, and then removing the denuded portions by longitudinal section with bone forceps. The patient rallied so well from the operation that an artificial vocal apparatus could be substituted for the ordinary canula on the fifth day. He became able to resume work after a while; but the disease made new inroads, and he died, 11 months later, in an advanced stage of tuberculosis.

[1] Med. Times and Gazette, August 19, 1871, p. 218.

Despite the most judicious treatment, and the most satisfactory immediate results, recurrence or recrudescence takes place in many instances at variable intervals, requiring resumption of specific treatment. The most satisfactory results claimed by any writer have been in cases actively treated by Lewin with hypodermatic injections. It is advisable to keep patients under observation for many months after active treatment has been discontinued. Mercuric iodide (biniodide) in small doses, one-twentieth to one-tenth of a grain, three times daily, may judiciously be given for prolonged periods during which apparent health exists. Potassium iodide, in diminishing doses, should be administered from time to time for a few days every month until the patient begins to show susceptibility to physiological effects from small doses; and then this susceptibility should be tested from time to time at intervals of a few months. Such supervision for two years at least seems to present the best prospect for riddance from the diathesis.

It may be mentioned in conclusion that, under intercurrent attacks of erysipelas, obstinate cases of tertiary syphilis of the larynx and trachea have undergone cure after having resisted all medicinal treatment.

Obstetrical Society of Philadelphia.

Stated Meeting, October 4, 1888.

THE PRESIDENT, T. M. DRYSDALE,, M.D., IN THE CHAIR.

DR. JOSEPH PRICE reported his

RECENT WORK IN ABDOMINAL SURGERY.

There were 65 cases of operation, with 8 deaths, as follows:

Double pyosalpinx with double ovarian cyst and purulent peritonitis. Autopsy showed pyonephritis—7 days. Extra-uterine pregnancy. Moribund 36 hours before operation, 24 hours. Supra-vaginal hysterectomy for sarcoma of uterus and all abdominal viscera—4 days. Resection 20 inches of large and small intestine for carcinoma. Hopeless. 26 hours. Exploration and drainage. Large multilocular cyst right ovary. General malignancy. Parent cyst evacuated. Hopeless. Operation for temporary relief—4 days. Perforating typhoid ulcer. Evacuation of muddy fluid and lymph. Reacted well for 12 hours—36 hours. Hysterectomy for sarcoma of uterus and left ovary. Bowel involved—3d day. Strangulation of ileum. Released adhesions. Recurring attacks of collapse for three days before operation. Hopeless—25 hours. Total deaths, 8.

The mortality list gives a small group of these hopeless cases we are called upon to give some relief. In short they simply command you to do

something for relief. If there is one chance they demand it. As a rule they have been seen by one or many physicians, and have refused any early operative interference, or delay has been advised. We find in such cases just those pathological conditions that should at least induce us to recommend, nay more, to insist and urge the removal of all such murderous diseases. If all operators and practitioners recognized the importance of early operation in these and analogous conditions as they do in strangulated hernia, the mortality would be greatly reduced and a world of suffering saved. Early interference in ovarian cystoma is generally taught now. The importance of the early removal of the appendages in fibroid and myomatous uteri has not received that attention it deserves. The tubes and ovaries are diseased in a majority of these cases, and much of the suffering is due to their pathological condition. The mortality and the suffering in pelvic inflammations, the sequelæ of gonorrhœa, are very great, and the country is covered with neglected cases. If cases carrying typical large pus tubes in this city were distributed there would be at least one in every street, alley and court. In my experience with small tumors in young women, I have been convinced of the propriety of early removal on account of accidents incident to their development and growth. Many are dermoids and prone to strangulation and suppuration, recurring attacks of localized peritonitis complicating their condition. I have been called upon to operate upon at least six of these young women in bed, emaciated, with quick pulse and high temperature. The general condition bad for so serious an operation as abdominal section. If these operations are done early while the patient is in fair condition, every risk of the operation is minimized—short anæsthesia, short incision, rapid enucleation, secure ligaturing, thorough irrigation and good drainage—the mortality will be very low and the much complicated and desperate cases rare.

DR. J. M. BALDY thought that such an opportunity, as was now presented by one of the cases presented by Dr. Price, should not be neglected, and that he would say a word about early operation in cases of tubal disease. A great deal of commendation had been expressed of these operations on the ground that very little trouble was likely to arise subsequently. The case referred to had been under the care of Dr. Daland and that he had had the pleasure of examining the post-mortem specimens with the doctor. The specimens, together with the clinical history, set the subject forward in a very vivid way. The history of the case was from the beginning one of tubual inflammatory trouble. Seven years before her last illness she had fallen into the hands of one of the oldest and best known gynecologists in the city, but who is not an operator. Dilatation and other well-known methods of treatment were persisted in for months. Her real condition was evidently not recognized. She went on from bad to worse and finally in her last illness fell into the hands of Dr. Daland. She fell into collapse three times during this sickness and an operation was urged both by her attendant and the consulting surgeon; their hands were, however, tied by the consulting *physicians*. At the last moment an operation was agreed to but the patient died. The specimens and autopsy showed double pyosalpinx, with both ends of both tubes impervious. Intestines were bound down in a mass on the tubes, and strangulation had occurred. Such a condition of affairs should not have been overlooked by any one, and an operation was strongly indicated. The case operated on any time during those seven years would have been saved with little risk. The case ran a course quite common, and which can only be prevented by early operation. In answer to a question from Dr. DaCosta as to how he knew there had been this condition seven years ago, he said that the woman had suffered continually with the same symptoms from the first. That she had either had the same condition then or it had been aggravated from a mild to a severe form of the disease by the treatment she had received.

DR. WM. GOODELL could corroborate the statement that the appendages were diseased in fibroid tumors. The larger the tumor the more likely are the ovaries and tubes to be diseased and the harder to remove. He was not sure but that in young women where the tumor was growing rapidly, it would not be better to remove the appendages early. Some years ago he had thought that dermoid tumors were solitary, but that two years ago he had removed a dermoid from each side, and had since noticed in the literature a number of others reported.

DR. M. PRICE said that the delay in treatment of many of these cases was due to the erroneous teaching in regard to inflammatory pelvic troubles. His belief was firmly fixed that they began as tubal trouble. In such cases leakage took place and set up other inflammatory trouble. He had been called in consultation to a case recently which was being treated as cellulitis, as usual. The patient had been an invalid for years; had been blistered, etc. The attack was relieved temporarily, but had subsequently returned and she was now in a bad septic condition. The tubes contain pus and the woman will either die of her trouble or be relieved by an operation. Her attending physician is a good man, but he has been taught that every trouble in the pelvis of an inflammatory character was cellulitis.

DR. HOFFMAN had lately come across a patient with fibroid tumor, who had been operated on three years before, but whose appendages had not been removed. She had great pain, and in one of our large institutions her trouble had been

pronounced *uterine neuralgia*. The operation revealed the colon adherent throughout almost its whole extent. Both appendages were diseased, and I had absolutely to dig them out. These difficulties probably caused the former operator to stop, and he would not have overcome them had it not been for the kind aid of Dr. Price.

Dr. Theophilus Parvin exhibited a specimen of extra-uterine pregnancy removed by Mr. Tait in the latter part of August. Pregnancy was supposed to have advanced six or seven weeks. Rupture had taken place two days before the operation. The patient was doing well when he last heard of her condition, four days after the operation. He thought that Mr. Tait was really the most wonderfully expert abdominal surgeon he had ever seen. In his work no antiseptics are used; perfect cleansing of the hands with soap, water, brush and towel; perfect cleansing of the abdomen; incision through the skin and underlying tissues; hæmostatic forceps used if necessary, but frequently not required; the use of forceps to take up the tissues as the peritoneum is approached; the raising up of the peritoneum almost an inch so that there is no risk of injuring anything beneath the membrane; incision into the peritoneum; the moment the incision is made the introduction of one or two fingers or rather the index finger and the thumb. In this case the diagnosis was not positive, only probable, before opening the abdomen, but as soon as he had introduced the finger into the abdominal cavity, he said that it was a case of extra-uterine pregnancy with rupture of the tube. It took probably five minutes to bring up the ruptured cyst and ligate the tube with the Staffordshire knot. After removing the tube and ovary, water was poured in through a funnel to which was attached a rubber tube with a nozzle. The metal nozzle was pushed around in all parts of the abdomen so as to wash out all of the clots. In this particular case two pitchers full of water were used, a drainage tube was introduced and three stitches closed the abdominal incision. This patient did not have a temperature above 100°, and when seen three days later her recovery seemed almost absolutely certain.

Dr. Parvin also exhibited the following instruments:

THE AXIS TRACTION FORCEPS OF DR. STEPHENSON,

Professor of Obstetrics in the University of Aberdeen. The forceps closely resembled the Simpson, being only a little longer and the pelvic curve greater. The traction is hooked on in front of the lock after the forceps is applied.

DELORE'S FLEXIBLE BLUNT HOOK; PAJOT'S CURETTE FOR REMOVING THE REMAINS OF A MISCARRIAGE,

consisting of a curette, the curve of which may be altered while the instrument is within the cavity of the uterus and to which different sized extremities may be attached.

DOLÉRI'S ÉCOUVILLON

for brushing out the cavity of the uterus after incomplete abortion; before introducing the instrument it is dipped in an antiseptic solution. To this treatment its inventor has given the name of *écouvillonnage*. Sometimes the use of the curette precedes that of the *écouvillon*.

MATHIEU'S INSTRUMENT FOR WASHING OUT THE UTERUS,

consisting of two tubes, lying closely together with small openings on their approximated surface. After introduction into the uterus the two tubes are separated by means of a screw, leaving a space for the water to flow from the uterus.

Dr. Wm. Goodell thought that after seeing Stephenson's forceps he could justly lay claim to all priority in the axis-traction device. Many years ago in his work at the Preston Retreat, he found that his back so often gave out while making axis-traction with his left hand on the lock of the ordinary forceps, that he sewed a stirrup to the end of a leather strap. The other end of the strap he wound around the forceps handles near the lock and in the stirrup he placed his foot. He usually hung the strap so near the floor, that his heel rested on the latter, the traction force being made merely with the toes or ball of the foot. He thought Dr. Price had probably seen this impromptu device hanging on a gas fixture in the lying-in-room of the retreat. Of course the woman lay on her back with her nates drawn over the edges of the bed.

Dr. Price remarked that he had seen the device spoken of by Dr. Goodell.

(*To be concluded.*)

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Akromeglia—Infantile Hemiplegia with Epilepsy.

The first meeting of the New York County Medical Association for the season of 1888–89 was signalized by the presentation of the first case ever known on this side the water of the remarkable disease described for the first time in 1886 by Maril under the name of akromeglia. Dr. Adler, who exhibited it, first gave a brief sketch of the few cases of the disease which have been reported in Europe, and then went on to say that the designation of akromeglia, which simply meant enlarged extremities, was not a very satisfactory one; but it had now been generally accepted and,

in our present total lack of knowledge regarding the pathology of this affection, it would perhaps answer as well as any other.

The patient, a female, was a native of Germany, 34 years of age and married, and first came under observation in February last, at the German Hospital. Her mother had died from the effects of a fall, and her father was still living. She also had three brothers living, all in the enjoyment of robust health. She was strong and healthy, she stated, up to her 18th or 20th year, the time of the onset of her present trouble not being very clearly remembered. She began to menstruate in her 15th year, but the periods were always very irregular, and at the end of three years finally disappeared. She thought she was about 20 when she first noticed that her feet would swell from time to time; although a bandage or tight-fitting shoe, she said, would always readily reduce the swelling. About this time she also noticed some enlargement of the submaxillary glands.

The patient was unable to give any exact history of the present abnormal growth. She was married in her 20th year, and when she was 23 her wedding ring became so deeply imbedded in the tissues of the finger that it had to be sawed off. What she principally complained of all along was pain in the back and great weakness, and she was also subject to frequent attacks of migraine. The pain in the back she attributed to a long ride, from which she never recuperated. She had for some time been unable to walk, and spent most of her time in a semi-recumbent position.

On looking at the woman, Dr. Adler said, one was at once struck with the immense size of the head and the marked projection of the lower jaw. At the first glance it looked like a case of myxœdema or one in which there had been complete extirpation of the thyroid gland. The entire cranium was greatly enlarged, and the protuberance of the occiput was especially marked. The lower jaw was immense, and the tongue was greatly hypertrophied and flabby. There was no alteration in the teeth, except that those of the lower jaw were separated to some extent from each other; and the hair was abundant. All of the lymphatics of the neck were greatly enlarged. On a superficial inspection there was an apparent lack of the thyroid gland, but a more careful examination, especially during the act of deglutition, showed that the left lobe and the isthmus could still be distinctly felt, although the right lobe seemed to be wanting. No trace of the thymus gland could be detected. The clavicles were markedly enlarged, especially at their sternal extremities. The ribs were also greatly enlarged, and commencing kyphosis and a peculiar bulging shape of the chest, due to the costal hyperplasia, could be observed. There was comparatively little adipose tissue anywhere. The bones of the arm and forearm also showed enlargement of the extremities, and there was some reason to believe that slight lengthening of the shaft had also taken place. The hands were also immensely enlarged, although there was no deformity of the nails, as has been noted in some of the other cases of akromeglia. The musles everywhere were flabby and atrophied. The skin was markedly hypertrophied, but remained for the most part soft and pliant.

The same general condition of affairs was found in the pelvis and lower extremities. The feet were enlarged even more than the hands, being simply colossal in size, and in the legs there was also enormous hyperplasia of the epiphyseal regions and of the patellæ. It was noticed that there was marked hyperæsthesia in all the hypertrophied parts; even slight pressure causing the patient to wince. As regards the internal organs, a careful ophthalmoscopic examination failed to reveal the presence of any organic disease. Repeated chemical and microscopic examinations of the urine showed no evidence of any kidney trouble, and the red and white corpuscles of the blood were both found to be normal in number and appearance; although to the eye the patient seemed anæmic. The heart and lungs, and all the other organs, as far as could be ascertained, were entirely normal. The appetite was fairly good, but the bowels showed a tendency to obstinate constipation.

The electrical examination showed some departures from the normal. The resistance of the skin to the faradic current was enormous. Otherwise the cutaneous sensibility was not diminished. As regards the galvanic current, there was considerable diminution of electrical excitability, which was most marked in the peronei of both lower extremities. Still, there was no evidence of any degeneration going on in the nerves, and the want of electrical excitability could well be explained on other grounds. There was evidence of well-marked psychical degeneration in the patient, who was described as having been a bright and lively girl, but was very dull and apathetic.

Dr. Adler then made some general remarks on akromeglia, founded on the observations of European authorities. In most particulars, he said, this case corresponded very closely with those met with abroad, though there was one feature which was peculiar to it alone, viz.: the widespread hyperplasia of the lymphatics. As regards the post-mortem appearances in this affection, Klebs was the only author who had made anything like a satisfactory report. He had found a general hyperplasia of the connective tissue and marked proliferation of the blood-vessels. There was also enlargement of the various nerves, especially the ganglia of the sympathetic. In the brain he found well-marked hyperplasia of the hypophysis cerebri, and the question naturally arose whether there

was any connection between the enlarged hypophysis and the enlargement of the nerves. Klebs was inclined to attribute the disease to the proliferation of blood-vessels, but this was purely fanciful and speculative, and at present the true pathology remains shrouded in profound mystery. As regards the matter of prognosis, this was not particularly bad so far as life was concerned. In Europe two of the cases which had been first observed as long ago as 1867 were still alive. In some of the cases there were abnormal conditions of the heart. In most of them the thyroid gland was diminished in size or apparently wanting altogether; but in two it was markedly hypertrophied and was no doubt diseased. Amenorrhœa was a constant characteristic of the disease.

Dr. W. R. Birdsall expressed the great pleasure it afforded him to see this case, the first of its kind ever recorded in America. He did not think he could throw any light on the pathology; though there seemed to him to be some mysterious connection between akromeglia, myxœdema and extirpation of the thyroid. He said that he had at present under observation a young girl suffering from amenorrhœa who had developed some enlargement of the extremities of the phalanges of the hands, and to a less extent of those of the feet. It might possibly be an incipient case of akromeglia, but it was as yet too early to form a definite opinion in regard to it. As regards the electrical reactions in Dr. Adler's case, he thought that we ought to be very guarded in drawing conclusions.

Dr. Adler said that it seemed to him that the hyperplasia in and about the nerves might of itself offer a sufficient explanation of the diminished electrical excitability.

Dr. A. L. Carroll thought that profound gratitude was due Dr. Adler for the most admirable clinical demonstration which he had given of his unique case. Ever since he had first seen an account of this new disease in the journals he had been waiting in the hope that some one would find a specimen of it in this country, and it now afforded him extreme pleasure to have the opportunity of seeing the first case reported.

The question of treatment having been suggested, Dr. Adler stated that, in the total absence of knowledge of the cause of the disease, all treatment, so far as interference with its progress was concerned, was without avail. The patient was simply kept in bed and her functions regulated as well as possible. The attacks of migraine to which he had referred could always be sufficiently combated with antipyrin.

Dr. J. Lewis Smith then presented an interesting case of infantile hemiplegia accompanied with epilepsy and characterized by marked spastic contractions and slight athetoid movements in the fingers. In connection with it he read a communication concerning the case prepared, at his request, by Dr. M. Allen Starr, the well-known neurologist, in which the latter gave a *résumé* of some of the latest researches by Seeligmeler and other authorities in regard to such conditions. In it he stated that all recent writers mention athetosis as a frequent complication of spastic infantile hemiplegia connected with epilepsy. On the invitation of Dr. Smith Dr. Birdsall then gave a clinical demonstration of the case and made some remarks upon it, in the course of which he stated that there was no doubt a destruction of tissue in the cortical areas, by reason of which the impulses from the brain were transmitted irregularly, and not in a coördinate manner. The last paper of the evening was by Dr. Daniel Brown, on "The Arrest of Secretions in the Eruptive Fevers," and this led to a valuable discussion by a considerable number of speakers.

P. B. P.

BOOK REVIEWS.

PTOMAINES AND LEUCOMAINES, or the Putrefactive and Physiological Alkaloids. By VICTOR C. VAUGHAN, Ph.D., M.D., and FREDERICK G. NOVY, M.S. Philadelphia: Lea Bros. & Co. 8vo, pp. 316.

The subject of this volume is one of the greatest interest, for without doubt our knowledge of the causation of disease can be greatly increased by a more detailed knowledge of it. The full importance of ptomaines and leucomaines has been so recently appreciated that as yet many of the facts known to us are so scattered and isolated that a scientific appreciation of them is impossible. The present work will undoubtedly aid much in diffusing a knowledge of these substances in the profession, and in placing before the searchers after new facts all that pertains to the subject up to the present time.

The volume is devoted almost exclusively to the chemistry of these alkaloids. One can not but be impressed with our lack of knowledge of the physiological action of these alkaloids. This is a field widely open to the investigator, and one from which a rich harvest can be gathered.

No one in our country is better adapted to produce a work upon this subject than Professor Vaughan, for he has become an authority upon it from his original investigations into it, especially from those in regard to tyrotoxicon, which he discovered.

THE APPLIED ANATOMY OF THE NERVOUS SYSTEM. By AMBROSE L. RAMSEY, A.M., M.D., etc. Second Edition. 8vo, pp. 791. New York: D. Appleton & Co. 1888. Chicago: W. T. Keener.

This work will be found exceedingly useful by all who come frequently in contact with those suf-

fering from disease of the nervous system. Its object is to aid in the anatomical diagnosis of such diseases. It is unusually complete in its treatment of the subject. Numerous diagrams and illustrations have been introduced in order to make explanations clear.

The present, although called a new edition, is practically a new book. It is much larger and for the most part newly written. If we were to make any criticism upon the book, it would be to urge the author to condense the subject-matter. So much of the substance of the work deals with the physiology of the nervous system that the title is somewhat misleading as regards its scope.

MISCELLANEOUS.

THE PREVENTION OF TUBERCULAR DISEASE. — The resolutions adopted by the Congress for the Study of Tuberculosis which assembled recently in Paris afford striking proof of the change which has come over popular pathological theories as to the etiology of this ubiquitous disease. It is not many years since the communicable nature of tuberculosis, and even the specificity of the process, were generally denied; now we find these two propositions taken as axiomatic, and important practical conclusions drawn therefrom to form the basis for legislation. In a courageous willingness promptly to accept the logical consequences of scientific discoveries, the French have frequently set an example which can only excite our admiration. Public opinion in this country and in our colonies moves more slowly, and the respect for vested interests leads to the perpetuation of practices which are injurious not only to the public health but, in the long run, to those interests which it is intended to conserve.

The first resolution led up to a *coup de théâtre*, no doubt carefully prepared beforehand. This resolution, which was adopted at an early sitting of the Congress, declared:

"That every means, including the compensation of owners, should be taken to bring about the general application of the principle that all meat derived from tubercular animals, whatever the gravity of the specific lesions found in these animals, should be seized and totally destroyed."

Now for the last three years the French Government has had in contemplation the advisability of applying the provisions of a law for the prevention of the spread of the contagious diseases of animals, passed in 1881, to the case of tuberculosis, and the necessary decree was actually signed by the President of the Republic during the session of the Congress. This decree is in many respects a remarkable document; here we are only concerned with its sanitary significance. It provides that every ox, cow, or other animal of the bovine species found to be suffering from tuberculosis shall be isolated, and that the veterinary inspector shall be present when it is slaughtered, and make a report on the *post-mortem* appearances. The meat is to be condemned if the tubercular lesions are generalized; that is to say, if they are not confined to the viscera and their lymphatics, or if, being confined to the viscera, the greater part of one organ has been invaded, or if the serous surface is affected. The sale of the milk of tubercular cows is absolutely prohibited, and it can only be used for feeding animals after it has been boiled. No provision exists for compensating the owners of condemned animals, and the possibility of creating a fund for this purpose is at present much discussed. One suggestion is to require an owner to provide himself with a "certificate of origin" for each animal which he possesses. It has been calculated that a fee of one franc would be sufficient to raise a fund large enough to compensate all owners, while the existence of the certificate would greatly facilitate the investigation of the source of epizootic outbreaks. Another plan which has been suggested is compulsory insurance.

Two other resolutions adopted by the Congress at the end of its last session are interesting as showing the direction in which public opinion is advancing. One of these was:

"That dairies ought to be subjected to a special system of inspection, with the object of ascertaining that the cows are not suffering from contagious diseases capable of being communicated to man, and that this system of inspection ought to be extended to all other establishments of the same class."

The full significance of this resolution will be perceived when it is remembered that in France tuberculosis is now included among the diseases legally recognized as communicable. The other resolution was to the effect that steps ought to be taken to spread among the public, especially in country districts, a knowledge of simple means of avoiding the danger incurred by the ingestion of the flesh or milk of tubercular animals, and of proper methods of disinfecting the excreta of phthisical patients, and objects contaminated by them.

A large number of papers on the nature and treatment of tuberculosis, and on the influence of heredity, were presented to the Congress, and the general scope of the discussions was sufficiently indicated by the letters of our Paris correspondent at the time. Without seeking to detract from the value of those clinical and pathological contributions, it yet appears that by far the most important work achieved by the Congress was the adoption of the resolutions which have been mentioned above. They deal, indeed, only with one element in the etiology of tubercular disease, but that not the least influential in its action, while practically it is the most important because its operation is most under control.—*British Medical Journal.*

MEDICAL EXAMINING BOARD OF VIRGINIA.—We are glad that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, of September 8th, editorially reviews the record of this Board up to a recent date, and very warmly commends its labors to the consideration of the profession. It advocates the establishment of like Boards in other States, and shows by an analysis of the Reports of the Virginia Board what good has been done the profession. It naturally drifts upon the influence of such Boards in leading to a higher education by the Medical Colleges of this country, and severely reflects upon the conduct of those connected with a college who oppose the effort of the profession to bring about a higher standard for medical graduation. Many sensible, strong points are made in that editorial which we regret not having space to reproduce in our pages.

In the issue of this official organ of the American Medical Association for September 22d, we find a cordial approval of the editorial referred to by Dr. William Osler, of Philadelphia, an eminent Professor in one of the Philadelphia Medical Colleges. With reference to the Report of the Medical Examining Board of Virginia, he correctly says: "To the schools, such a report is as the handwriting on the wall, 'Mene, mene, tekel upharsin;' to the profession of every State, an encouragement to persevere in the good work of organizing Medical Boards."

Such sentiments expressed by those practically possessed of authoritative utterance go far to encourage the organization in other States of Medical Examining Boards similar to those in Virginia and North Carolina. They also help to encourage the profession in these two States to keep their Boards up to the high standard of excellence to which they have attained. There has been nothing in the conduct of the Virginia Board—nor, as to that matter,

in the North Carolina Board—to cause the profession to regret their selection of its members. With very rare exceptions, the few objectors to the Virginia Board are easily tracked to connection with or personal interest in some medical college.—*Virginia Medical Monthly.*

CLIMATE FOR CONSUMPTIVES.—PROFESSOR KNIGHT, of the Harvard Medical School, read a paper not long ago before the Boston Society for Medical Observation, on the choice of a climate for consumptive persons. Some of the ideas advanced may be of value to our readers. Patients who have cavities in their lungs, and those who have severe hectic symptoms, especially if they are poor, should not leave home, nor should those who have any acute affections of the lungs do so during the acute stage of the disease.

If, in the early stages of consumption, complete cure can be hoped for, a climate is to be chosen in which the patient can remain throughout the year. If, on the other hand, nothing more than temporary relief and some prolongation of life are to be expected, a mild winter climate is recommended.

While consumption presents a variety of phases and conditions, making it impossible to lay down fixed and invariable rules, it may be said that in general the first object aimed at by a change of climate is to enable the patient to live an active outdoor life, for the purpose of assisting nutrition of the lungs, and this is best attained in situations at an altitude of 4,000 to 8,000 feet above the sea level.

Dry and pure air, a good proportion of clear days, and a rarefied atmosphere which compels greater activity of the respiratory organs, make a mountainous country the best for this purpose. Those for whom high altitudes may be recommended are:

1. Patients who show no more alarming symptoms than a morning cough and expectoration. For them Colorado and New Mexico are suited.

2. Those who have some consolidations of the lungs, but no cavity, nor any serious constitutional disturbance. For persons who exhibit such disturbance—a high pulse and temperature—a lower altitude should be tried first; say the pure regions of Southern Georgia for the cold months, and then, if there is improvement, a more elevated region.

3. Cases in which there is early and frequent hæmorrhage, without much other evidence of disease. The mountains are peculiarly suited to persons of this class; and

4. Persons who are recovering from acute diseases of the lungs. But in these cases great care should be exercised, lest the steps taken to ward off permanent pulmonary disease have an evil effect upon other organs weakened by sickness.

Patients in whom tubercular disease has invaded the larynx should on no account be sent to high altitudes. They need mild and moist climates, like that of Southern California. Moreover, those who have a tendency to irritability of the bronchial tubes, and nervous persons, do not do well in high altitudes. A very high altitude should not, as a rule, be recommended for any patient over 50 years of age.

A DISGRACEFUL JAIL.—In the last quarterly Report of the Illinois State Board of Health DR. RAUCH says: On the 14th of July I made an inspection of the Tazewell county jail, at Pekin, concerning which I subsequently wrote to the sheriff in unqualified condemnation of the structure. That portion of it in which the male prisoners are confined consists chiefly of a room 27x28 feet, and 8½ feet high; this is divided by heavy iron bars into eight cells and, with its stone floor resting directly upon the ground, resembles a cage for wild beasts rather than anything designed for human occupancy. The only ventilation is by three apertures, 27x30 inches, fully one-third of the space obstructed by heavy iron-work. These apertures are situated in the upper part of the wall, thus still further reducing their ventilating value, which is only nominally aided by two so-called air-shafts. Openings through the stone flagging in corners of the room communicate directly with shallow holes in the ground which constitute the only cloacæ. To empty these it is necessary to tear away the outside wall and then rebuild. The result may be imagined, but not described. Diarrhœas and low continued fevers prevail among the prisoners confined in this damp, noisome stone dungeon. If this jail is the result of a studied effort to outrage every law of health, humanity and decency, the effort is a disgraceful success.

THE WHITECHAPEL MURDERS.—Dr. Bloch, a member of the Austrian Reichsrath, has called attention to certain facts which may throw a new light on the Whitechapel murders. In various German criminal codes of the seventeenth and eighteenth centuries, as also in statutes of a more recent date, punishments are prescribed for the mutilation of female corpses, with the object of making from the extracted organs the so-called "diebslichter" or "schlafslichter"—"thieves' candles" or "soporific candles." According to an old superstition, the light from such candles will throw those upon whom it falls into the deepest slumbers, and they may, consequently, be useful to thieves. At the trial of a notorious German robber in 1810, it was discovered that a regular manufactory had been established by gangs of thieves for the production of such candles. That this superstition has survived among German thieves to the present day was proved by a case tried at Biala, in Galicia, as recently as 1875. In this the body of a woman had been found mutilated in precisely the same way as were the Whitechapel victims.

THE CINCINNATI POLYCLINIC was organized on October 31. It was first opened last Spring as a voluntary clinic, but it grew so rapidly that the idea of the present enlarged undertaking was soon developed. It is the first post-graduate medical school in Cincinnati and the fifth in the United States, there being two in New York, one in Philadelphia, one in Chicago and one in St. Louis. The present enterprise starts off most auspicially, and has secured a registration of students in advance. The students are restricted entirely to graduates in medicine. The Faculty was organized with Dr. Chas. A. L. Reed, Professor of Diseases of Women, as Dean, and the following additional Professors: General Medicine, Drs. Kemper and E. W. Mitchell; Surgery, Drs. Wallace Neff and Longstreet Taylor; Diseases of the Eye, Dr. Robert Sattler; Gynecology, Drs. R. B. Hale and Edwin Ricketts; Diseases of the Skin, Drs. A. Ravogli and M. Ricketts; Diseases of Children, Dr. H. W. Rover; Diseases of the Throat, Drs. A. B. Thrasher and Boylan. Dr. Rufus B. Hale was elected Treasurer and Dr. Taylor, Secretary.

A GOOD MOVE RELATING TO POULTRY SELLING.—The State Legislature of Massachusetts has enacted the following: 1. No poultry, except it be alive, shall be sold or exposed for sale until it has been properly dressed by the removal of the crop and entrails, when containing food. 2. Whoever knowingly sells or exposes for sale poultry contrary to provisions of section 1 of this act shall be punished by a fine of not less than five nor more than fifty dollars for each offense. The Boards of Health in the several cities and towns shall cause the provisions of this act to be enforced in their respective cities.

It would have been better, surely, to have omitted the words "when containing food," in the first section. The entrails always contain either food or the excrete refuse of it, containing numberless microbes ready to set up putrefactive or diseased processes.—*The Prophylactic.*

DR. JAMES CRANE, of Brooklyn, who died on November 1, was an old and honored physician of Brooklyn. Forty-three years of his life were passed in Brooklyn, so

that he belonged to the earlier professional circle so few of whose members survive. His practice was large. He was conspicuous in the medical societies and active in the hospitals, and he served as Brooklyn's representative in the Metropolitan Board of Health, and later as President of the Board of Health of this city. Through disability rather than because of growing age he had in recent years withdrawn from general view, but he will be remembered and regretted by many families who knew and esteemed him privately, by his professional associates and by citizens who recall his skillful and faithful performance of public duty.

SUED FOR MALPRACTICE FOR GIVING CHLOROFORM IN ECLAMPSIA.—Dr. J. J. Leppa, of New York, has been sued for malpractice. The plaintiff, an Italian woman, says that her brother, the patient, a boy of 15, went to work at his trade in a silk-twine and braid factory in the morning, and came home at noon complaining of a pain, and was shortly after seized with convulsions. She called Dr. Leppa, who gave him chloroform and ether. The boy had six successive convulsions. The anæsthetic brought him out of each, but at the end of the sixth he died. It is a well-known fact that chloroform is one of the best and most approved drugs in eclampsia; and this case seems to be a particularly unjust one.—*The Medical Record.*

SMALL-POX IN PHILADELPHIA.—A dispatch of November 3 says: Upon information furnished by a physician the local health authorities late yesterday sent to the Municipal Hospital a woman named Caroline Gabriel, who was suffering from small-pox. She reached New York last week on a Bremen steamer and came on to this city by railroad. Health Officer Patterson was to-day emphatic in his denunciation of the negligent conduct of the New York health authorities, as, from the condition of the woman when first seen by the physician who reported her case, she must have contracted the disease before leaving Bremen.

THE WESTERN BUREAU OF PRESS CLIPPINGS is an agency to furnish any one with newspaper and general periodical clippings upon any subject. It was organized by Mr. F. L. Hagadorn, an experienced journalist, whose address is Room 2, *Times* Building, Chicago. The subscriber has only to indicate what kinds of clippings he wishes, and they are sent regularly. It is a labor-saving institution for all classes of men, and as such deserves success.

THE SWEATING SYSTEM IN HOLLAND.—A Committee of the Dutch Chamber has recently reported that in that country the average factory day is from 13 to 14 hours, while the operatives work often 18, 24, and 36 hours at a time. The Committee also reports that infant mortality is increasing, technical improvements are neglected, and the inventiveness of workingmen destroyed.

THE BACTERIA OF SEA-PHOSPHORESCENCE.—Professors Pflüger and Tilanus, it is stated, have discovered the bacteria that produce the phosphorescence of sea fish, and have cultivated them by Koch's method. In the dark the glass slide containing them is seen to be thickly strewn with luminous points.

PENALTY FOR HANDLING INFECTED CLOTHING.—The magistrates of Bootle, England, have recently fined two persons for removing infected clothing. In one case a man removed infected articles from the house in which his child had died of scarlet fever; in the other a poor woman pawned a quilt to buy food for her sick son.

A CREMATORY IN TROY.—The new crematory to be erected in Oakwood Cemetery, Troy, the gift of Mr. Wm. S. Earl, will probably cost $150,000. It is to be of granite, 136 feet long and 70 feet wide, and will be a mortuary chapel and retort.

A RESEARCH LABORATORY for the Royal College of Physicians of Edinburgh has been recently completed. Cuts showing the arrangement of the rooms are given in the *British Medical Journal* of September 15.

SIR MORELL MACKENZIE'S BOOK, "The Fatal Illness of Frederick the Noble," has appeared in this country. It is published in America by Brentano, of New York, Washington and Chicago.

MEASLES have become epidemic at Wellsville, Ohio, and of such a malignant type that great alarm exists. In East Palestine alone over 100 school-children are down with the disease.

LIABILITY OF PARENTS FOR CHILDREN OVER AGE.—An English judge has recently decided that a parent who calls a physician to see a child over age (of age) is not liable for the doctor's bill.

CHILDREN IN FACTORIES.—The Assistant Inspector of Workshops and Buildings, of Findlay, Ohio, has found children eight years of age working in glass-making houses.

THE PUBLIC SCHOOLS of Athens, Ohio, are said to be closed on account of prevalence of diphtheria in that place.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department U. S. Army, from October 27, 1888, to November 2, 1888.

Col. Elish I. Baily, Surgeon, and Capt. John J. Cochran, Asst. Surgeon, detailed for duty on Army Retiring Board to meet at San Francisco, Cal., for the examination of such officers as may be ordered before it. Par. 3, S. O. 253, A. G. O., Washington, October 30, 1888.

Major John H. Bartholf, Surgeon U. S. Army (Ft. McIntosh, Texas), is granted leave of absence for one month, on surgeon's certificate of disability. Hdqrs. Dept. of Texas, San Antonio, Tex., October 10, 1888.

Capt. Daniel Weisel, Asst. Surgeon U. S. Army, died at Ft. Sill, Ind. Ter., October 30, 1888.

By direction of the Secretary of War, Capt. William H. Arthur, Asst. Surgeon, is relieved from duty at Ft. Bowie, Ariz., and will report in person to the commanding officer, Ft. Bayard, N. Mex., for duty at that post. Par. 21, S. O. 250, A. G. O., Washington, D. C., October 26, 1888.

James D. Glennan and Alfred E. Bradley, appointed Asst. Surgeons U. S. Army, with rank of First Lieuts., to rank from October 29, 1888.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending November 3, 1888.

Medical Director A. L. Gihon, ordered to Naval Hospital, Brooklyn, N. Y.

Medical Director John T. Taylor, detached from Naval Hospital, N. Y., and to Examining Board.

PROMOTIONS.

Medical Inspector Adrian Hudson, promoted to Medical Director.

Medical Inspector Michael Bradley, promoted to Medical Director.

Medical Inspector Newton L. Bates, promoted to Medical Director.

Surgeon T. Woolverton, promoted to Medical Inspector.

Surgeon C. H. White, promoted to Medical Inspector.

Surgeon G. W. Woods, promoted to Medical Inspector.

Surgeon F. L. DuBois, promoted to Medical Inspector.

Surgeon G. H. Cooke, promoted to Medical Inspector.

P. A. Surgeon Howard Wells, promoted to Surgeon.

P. A. Surgeon D. N. Bertolette, promoted to Surgeon.

P. A. Surgeon J. H. Gaines, promoted to Surgeon.

P. A. Surgeon Ezra Z. Dexo, promoted to Surgeon.

P. A. Surgeon F. B. Stephenson, promoted to Surgeon.